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ABSTRACT

Provides information from 1,504 graduates of selected occupational programs regarding the effectiveness of their Illinois community college experience. Data for this report were obtained from responses to a standardized survey. The survey instrument addresses attendance objective, education status, employment status, salary, employment start-up, geographic location of employment, and satisfaction with employment and components of the educational program completed. Part 1 of this report provides an overall summary of survey outcomes. Part 2 includes an in-depth analysis of survey results according to specific program areas. Overall findings are as follows: (1) 93.3% of graduates were employed or pursuing additional education or both, and 89% of the occupational completers were employed; (2) among working graduates, 87% held full-time status in their current jobs, 81% were employed in positions related to the field in which they studied at the community college, 78% obtained their current positions while enrolled or after graduating, 94% were employed in Illinois, and the average salary was $12.36/hour; (3) graduates employed full-time earned the equivalent of about $26,458; (4) the average rate of unemployment was 4%; (5) nearly 23% of the respondents were pursuing additional education; and (6) on average, graduates expressed satisfaction with components of their program and with college services. Appendices contain data tables derived from survey results. (Contains 14 references.) (VWC)

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2000 FOLLOW-UP STUDY

of Fiscal Year 1999 Occupational Program Graduates

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Illinois Community College Board

2000 FOLLOW-UP STUDY OF FISCAL YEAR 1999 OCCUPATIONAL PROGRAM GRADUATES

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2000 FOLLOW-UP STUDY OF FISCAL YEAR 1999 OCCUPATIONAL PROGRAM GRADUATES

Introduction

Occupational programs provided by community colleges have an increasingly important role to play in providing people with the skills required to be productive members of today's workforce and to compete successfully in the workforce of the future. Ongoing and accelerating technological change will increase the number of occupations that require technical education and training. As the rate of change accelerates, the emphasis on lifelong learning will become increasingly important. According to the U.S. Department of Labor publication entitled *Futurework: Trends and Challenges for Work in the 21st Century* (1999), the majority of jobs being created today require less than an associate's degree, but demand higher order thinking, communication, and technical skills.

National data indicate that a year or two of postsecondary education can provide the skills to position an individual to successfully compete in the workplace. The U.S. Department of Labor provides information about the level of education and training needed for employment in 2005.

Percent of Jobs	Level of Training Required in 2005
20.5%	Bachelors Degree or Higher
75.0%	1 or 2 years of Postsecondary Education
4.5%	High School or below

These Department of Labor figures show that three-quarters of the positions in 2005 will require one to two years of postsecondary education.

According to Grubb and Bragg (1997), community colleges have emerged as the key provider of occupational education in America. Occupational and vocational education have become a preferred method of preparation for the critical middle-skills occupations in the labor force. These occupations currently represent approximately 60 percent of the workforce and are showing rapid growth. Many expect these skilled occupations to play a pivotal role in America's efforts to remain and move forward as a world-class competitive power.

Skills building education and training opportunities provided by community colleges have grown in importance in recent years and are expected to become increasingly important in the future. The Illinois Community College System is focused on meeting these challenges by providing quality programs and services. As a part of this effort the Illinois Community College System conducts a follow-up survey of occupational program graduates. This report provides information from graduates of selected occupational programs regarding the effectiveness of their Illinois community college experience. Data for the report were obtained from responses to a standardized survey. The survey instrument addresses attendance objective, education status, employment status, salary, employment start-up, geographic location of employment, and satisfaction with employment and components of the educational program completed. Such information has implications for colleges as they develop new program proposals and perform

program review in order to ensure that they stay in step with the changing job market thus providing for satisfactory employment and compensation for their graduates. Part I of this report provides an overall summary of survey outcomes. Part II includes an in-depth analysis of survey results according to specific program areas. The Appendices contain data tables derived from the results of the survey. Appendix A presents a summary of responses by college and response rates by program area. Appendix B provides information by survey item, and Appendix C presents data by both college and program.

A total of 2,544 former students who graduated from selected Illinois community college programs in fiscal year 1999 were surveyed in March 2000 (Table A-2). For most graduates, this was approximately six to nine months after program completion. Following receipt of the completed surveys, ten programs were eliminated from the statewide analysis due to a low number of responses or a small number of graduates. Graduates of the following programs were excluded from the statewide study due to small numbers of graduates or few respondents: Plastics Technology, Metallurgical Technology, Biological Technology, Chemical Technology, Mason and Tilesetter, Railroad Technology, Developmental Disabilities/Habilitation Aide, Business Marketing and Marketing Management, International Business Marketing, and Real Estate. Removing the 50 graduates from these programs and their responses resulted in the utilization of 1,504 responses from a pool of 2,494 graduates. Hence, the survey yielded a usable response rate of 60.3 percent (Table A-1). Table A-2 shows response rates by program.

Three broad program areas combined to account for nearly two-thirds of the graduates: Child Care (26.3 percent), Health and Medical Diagnostic and Treatment Services (21.5 percent), and Vehicle and Mobile Equipment Mechanics and Repairers (14.5 percent). Graduates from the remaining program areas accounted for 37.0 percent of the respondents. Overall statewide results are influenced by differences in program size and in the number of graduates responding to particular questions. Percentages cited throughout the report reflect the number of responses to each question. Note that information regarding Psychiatric/Mental Health Services Technician and International Business graduates are included in the tables and statewide figures, but excluded from detailed analysis based on small program size.

Illinois Community College Board

Table 1

OCCUPATIONAL PROGRAM AREAS SURVEYED IN FY 2000
BY CIP CATEGORY

CIP	Title
010201	AGRICULTURAL MECHANIZATION
131501	TEACHER ASSISTANT/AIDE
1506	INDUSTRIAL PRODUCTION TECHNOLOGIES
150603	Industrial/Manufacturing Technology/Technician
150607	Plastics Technology/Technician*
150611	Metallurgical Technology/Technician*
200202	CHILD CARE PROVIDER/ASSISTANT
410101	BIOLOGICAL TECHNOLOGY/TECHNICIAN*
410301	CHEMICAL TECHNOLOGY/TECHNICIAN*
440701	SOCIAL WORK
460101	MASON AND TILESETTER*
460201	CARPENTER
470303	INDUSTRIAL EQUIPMENT MAINTENANCE AND REPAIRERS
4706	VEHICLE AND MOBILE EQUIPMENT MECHANICS AND REPAIRERS
470603	Auto/Automotive Body Repairer
470604	Auto/Automotive Mechanic/Technician
470605	Diesel Engine Mechanic and Repairer
470609	Aviation Systems and Avionics Maintenance Technologist/Technician
490205	TRUCK, BUS AND OTHER COMMERCIAL VEHICLE OPERATOR
490410	RAILROAD TECHNOLOGY*
510205	SIGN LANGUAGE INTERPRETER
5108	HEALTH AND MEDICAL DIAGNOSTIC AND TREATMENT SERVICES
510801	Medical Assistant
510803	Occupational Therapy Assistant
510805	Pharmacy Technician/Assistant
510806	Physical Therapy Assistant
510807	Physician Assistant
510808	Veterinarian Assistant/Animal Health Technician
5115	MENTAL HEALTH SERVICES
511501	Alcohol/Drug Abuse Counseling
511502	Psychiatric/Mental Health Services Technician
511504	Developmental Disabilities/Habilitation Aide*
520701	ENTERPRISE MANAGEMENT AND OPERATION
520902	HOTEL/MOTEL AND RESTAURANT MANAGEMENT
521001	HUMAN RESOURCES MANAGEMENT
521101	INTERNATIONAL BUSINESS
5214	MARKETING MANAGEMENT*
521401	Business Marketing and Marketing Management*
521403	International Business Marketing*
521501	REAL ESTATE*

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* Excluded from state report due to low number of graduates or low response rates.

Part I: STATEWIDE OVERVIEW

Follow-up surveys were mailed to graduates of the selected occupational programs listed on the previous page in spring 2000, approximately six to nine months after graduation. Graduates reported the following:

< 93.3 percent were employed or pursuing additional education or both. (Table B-1.)

< 88.8 percent of the occupational completers were employed. (Table B-2.)

Among working graduates,

< 87.0 percent held full-time status in their current jobs. (Table B-2.)

< 80.7 percent were employed in positions related to the field in which they studied at the community college. (Table B-5).

< 78.3 percent obtained their current positions while enrolled or after graduating. (Table B-7.)

< 93.9 percent were employed in Illinois. Of those, more than two-thirds remained in the district where they received their training. (Table B-8.)

< The average salary was $12.36 per hour, 2.4 times the minimum wage at the time ($5.15 per hour). (Table B-9.)

< Graduates employed in full-time positions earned the equivalent of about $26,458 annually.

< The average rate of unemployment (the percent of graduates who were unemployed and seeking work) was 4.3 percent. (Table B-2).

< Nearly 23 percent of the respondents were pursuing additional education. Seventy-three percent of those enrolled in further study were taking course work in a related field (Table B-4).

< Graduates employed in positions related to their community college program were satisfied with their current positions (4.19 on a five-point scale, with 5 being very satisfied and 0 being very dissatisfied). Including nonrelated positions, job satisfaction averaged 4.08/5.00. (Table B-10.)

< On average, graduates expressed satisfaction (M = 4.27/5.00) with components of their program (course content, lecture/lab experiences, equipment, facilities and materials, job preparation, preparation for further education, and labor market employment information). (Table B-11.)

< Graduates were also satisfied with college services, such as financial aid, academic advising, career planning, transfer planning, counseling, tutoring, library/audio visual, and student activities) awarding an average rating of 4.22/5.00. (Table B-12.)

Graduates from similar program areas were surveyed five years ago. Generally, more recent graduates exhibited slightly higher satisfaction ratings. Workers in both studies reported high levels of satisfaction with their jobs (M = 4.08 for 1999 and M = 4.03 for 1994). Likewise, graduates reported high levels of satisfaction with major program components (M = 4.27 for 1999 completers and M = 4.18 for 1994 completers) and college services (M = 4.22 for 1999 and M = 4.00 for 1994).

A comparison of follow-up survey outcomes from 1994 and 1999 (Figure 1) reveals only slight differences. A slightly larger proportion of recent graduates were employed or continuing their education or both (93 percent for 1999 versus 92 percent for 1994). A slight decrease was noted in the percentage of survey respondents pursuing additional education among more recent graduates (4.7 percent for 1999 versus 6.4 percent for 1994). The percentage of recent graduates who were unemployed and seeking work is currently slightly lower at 4.3 percent versus a 4.4 percent unemployment rate reported five years earlier. A higher percentage of current graduates were working in the community college district in which they received their training (64 percent in 1999 versus 55.9 percent in 1994). The average hourly wage of $12.36 increased $1.90 from five years ago for all workers. (The minimum wage increased $0.90 over the same period of time.) A larger percentage of the 1999 graduates were employed in their current position during program enrollment (26.8 percent among 1999 completers versus 24.6 percent for 1994 completers). There was a slight decrease in the percentage of graduates who were employed prior to program entrance (21.6 percent for 1999 versus 21.9 percent for 1994).

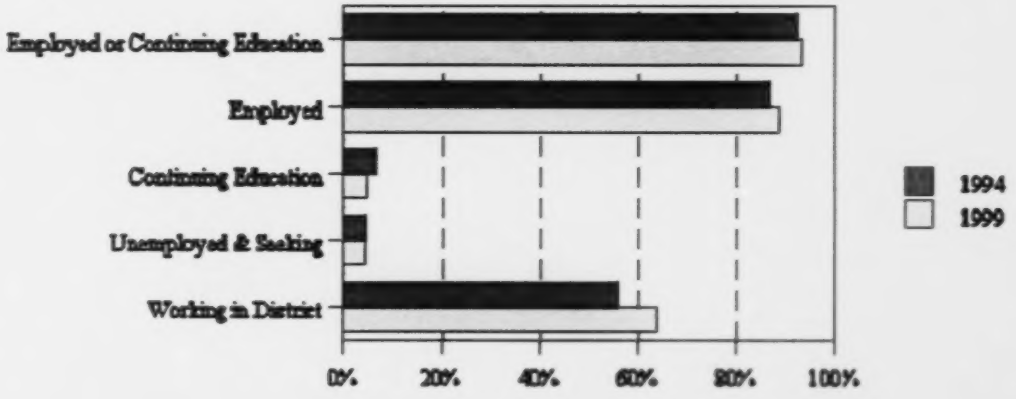

Figure 1. Comparison of Occupational Graduates: FY 1994 & FY 1999

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Part II: PROGRAM-SPECIFIC ANALYSIS

One of the ways in which the Illinois Occupational Information Coordinating Committee (IOICC) provides career information is through a product known as *Horizons* or the Career Information System. This information is currently available through electronic media and via the internet. The internet version of *Horizons* (2001) is referenced frequently throughout this section of the report. Internet *Horizons* is available to Illinois public community college officials at the following website address: http://www.ioicc.state.il.us/Horizons/default.htm A related product at the national level is also referenced in the overview materials called the *Occupational Outlook Handbook* produced by the Bureau of Labor Statistics. The 2000-2001 edition of the *Occupational Outlook Handbook* is available at the following site on the internet: http://stats.bls.gov/ocohome.htm .

> Overall, employment in the health services industry in Illinois is expected to increase by 24.1 percent through the year 2006. *A Guide to Health Careers in Illinois*, 2000

Health and Medical Diagnostic and Treatment Services. There were 324 health and medical-related graduates in six program speciality areas from 20 colleges who responded to the current Occupational Follow-up Survey. Graduates received training in a variety of health and medical occupations. Population growth and an increase in life expectancy are expected to create increased demands for health care occupations.

National data provide information about the types of establishments where healthcare workers are employed. Nationwide, over 460,000 establishments make up the health services industry, and they vary greatly in terms of size, staffing, and organization. Two-thirds of all private health services establishments are offices of physicians or dentists. As expected, hospitals remain major employers. Although hospitals comprise less than 2 percent of all private health services establishments, they employ nearly 40 percent of all workers in the field. When government hospitals are included, the proportion rises to almost half the workers in the industry. (*A Guide to Health Careers in Illinois*, 2000, http://www.ioicc.state.il.us/HealthCareers/Intro.htm)

In Illinois, the healthcare industry accounted for 472,784 wage and salary jobs in 1996, the most recent available data, which represents approximately 8 percent of total industry employment statewide. Employment in the health services industry in Illinois is expected to increase by 24.1 percent through the year 2006, which is much faster than the statewide average for all industries. Growth rates among industry segments differ with home health care services nearly doubling its employment size. Four of the 20 fastest growing industries in the state include segments of health services: home health care services, nursing and personal care facilities, offices of other health practitioners, and miscellaneous health and allied services. (*A Guide to Health Careers in Illinois*, 2000, http://www.ioicc.state.il.us/HealthCareers/Intro.htm)

The six community college system health and medical programs included in this report are:

Program Area	CIP Code
Physical Therapy Assistant	510806
Occupational Therapy Assistant	510803
Medical Assistant	510801
Pharmacy Technician/Assistant	510805
Physician Assistant	510807
Veterinarian Assistant/Animal Health Technician	510808

Physical and corrective therapy assistants is one of the 50 fastest growing occupations in the state. Nationally and in Illinois, employment of physical therapy assistants is expected to grow much faster than average through 2006. (*Horizons*, 2001)

Physical Therapy Assistants. Physical therapy assistants work under the supervision of a licensed physical therapist and administer exercises, massage, and other patient treatments. Treatments help patients regain physical functions and prevent permanent disability from illness, injury, or birth defects. Assistants help patients improve their ability to walk, climb, and acquire other skills needed for daily living, such as eating, dressing, and bathing. They create and maintain records on patient treatment and progress and report their findings to the physical therapist. Physical therapy assistants also instruct patients in the use and care of crutches, walkers, wheelchairs, artificial limbs, braces and other assistive/adaptive devices. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ ilcis/info.exe?occ& 818300&fr)

Physical therapy assistants are licensed by the Illinois Department of Professional Regulation. Licensing requirements include being at least 18 years old, completion of an accredited two-year program in physical therapy assisting, passing a written examination, and payment of a $100 license fee. The growing and aging population will continue to spur demand for therapeutic services. Additionally, licensed physical therapy assistants are being used more to carry out tasks prescribed by a therapist. Competition is expected to remain keen, but opportunities should be good for graduates of approved programs. According to the Illinois Department of Employment Security, the short-term forecast for "physical therapy assistants" is favorable. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&818300&fr)

There are about 3,590 physical therapy assistants employed in this small occupation in Illinois. Approximate regional employment is as follows: Northeastern Illinois — 2,165; Northwestern Illinois — 370; East Central Illinois — 175; West Central Illinois — 160; Southwestern Illinois — 200; and Southeastern Illinois — 180. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ&818300&fr)

Over two-thirds of the physical therapy graduates responded to the survey (N = 164 of 239). Eleven community colleges provided information on their physical therapy assistants (PTA) graduates. Southwestern Illinois Community College (N = 31), Morton College (N = 22), and Illinois Central College (N = 18) were among the colleges with the largest number of respondents. Almost 91 percent of the graduates were either employed, pursuing additional information, or both. Nearly 87 percent were exclusively employed, while 12.4 percent were both employed and pursuing additional education. PTA graduates had an unemployment rate of 5.6 percent. Nine out of ten PTA graduates were employed.

One out of every five PTA graduates was working in a job unrelated to their training. The ratios were the same for both full- and part-time workers. Graduates working in a related field were satisfied with their jobs ($\underline{M}$ = 4.33 on a 5.00 scale), while those working in unrelated positions were substantially less satisfied ($\underline{M}$ = 3.27). Nearly 60 percent of those working in an unrelated position could not find jobs in the area (N = 18). Other reasons cited for working in unrelated positions included other/unknown (N = 5), did not pass their licensing examination (N = 3), found better pay in another field (N = 2), preferred to work in another field (N = 1), took job to get preferred working hours (N = 1), and health problems prevented working in the field (N = 1). The rate of graduates working outside of their chosen field is an area for further examination at the local level. Based on survey responses, Kaskaskia College and Illinois Central College appear to be among those whose PTA graduates could benefit from further assistance in locating related positions.

Since this is a regulated occupation, almost 78 percent of working PTA graduates began their jobs after program completion. This is well above the 51.5 percent average for all graduates. Almost 10 percent were already employed in their current positions when they entered the program, and all of them were working outside the field. About 13 percent of graduates working found employment during program enrollment. A relatively small proportion (45.8 percent) found work within their college district. About 44 percent were working outside of the district, but in Illinois. Almost 10 percent were working out of the state.

Approximately 80.4 percent of working graduates were employed in full-time positions. Full-time PTAs graduating from community colleges earned $12.85/hour which is almost two-and-one-half times the minimum wage. Their earnings were slightly above the average for all graduates in this year's study. PTA graduates employed in part-time positions made $13.09/hour. The 1998 Occupational Wage Survey for Illinois reports average salaries ranging from $23,483-$32,864/year. Nationally, in 1996, the starting salary for PTAs averaged about $24,000/year. The American Physical Therapy Association reports that, in private practice, experienced assistants earn, on average, about $30,000 annually. (*Horizons*, 2001 http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ&818300&fr). PTAs graduating from Illinois community colleges in full-time positions earned $26,728/year, which is well within the range for PTAs statewide and above the average nationally from 1996.

Generally, PTA graduates had among the lowest overall ratings for satisfaction with program components ($\underline{M}$ = 4.04). Particularly low were their rating of labor market employment information ($\underline{M}$ = 3.56)

availability. Their overall rating for services for their occupational program was slightly higher than that of all health and medical graduates (M = 4.24).

Community college PTA programs, along with the number of respondents, have grown between 1994 (N= 66) and 1999 (N = 164). Comparisons between 1999 PTA graduates with 1994 completers show that, while both graduates had generally good outcomes, 1994 graduates were slightly more positive than the more recent graduates. As Figure 2 shows, 1999 graduates had slightly lower rates of employment/continuing education/both, as well as smaller numbers who were exclusively employed. Still, nine out of ten current graduates were either employed/continuing education/both and nearly 90 percent were working. Graduates from1999 also had a greater portion of those exclusively continuing their education and a higher unemployment rate. Graduates from 1994, were slightly less likely to be employed in the district where they received their training.

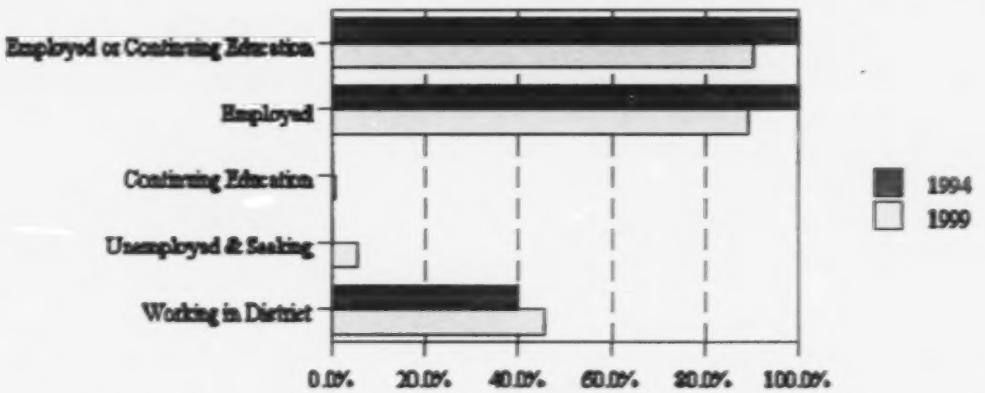

Figure 2. Physical Therapy Assistant Graduates: FY 1994 & 1999

Nationally and in Illinois, employment for occupational therapy assistants is expected to increase much faster than average through 2006. (*Horizons*, 2001)

Occupational Therapy Assistants. Occupational therapy assistants work under the supervision of an occupational therapist and assist in the development of educational, vocational, and recreational programs geared to address client's needs. They teach individuals with physical, mental, and developmental disabilities self-care skills like dressing, eating, and shaving and work-related skills, such as the use of power tools, and use recreational and social activities, such as games, to achieve desired outcomes. Occupational therapy assistants observe and record information about client progress and report to the occupational therapist. Assistants also prepare material to be used by clients, help maintain equipment, and order supplies. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe? occ&818200&fr)

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Occupational therapy assistants must be licensed to practice in Illinois through the Department of Professional Regulation. To become licensed, applicants must complete an approved occupational therapy assistant program of at least two years in length, leading to an associate degree or its equivalent; pass a national certification examination; and pay a $25 application fee.

This is a very small occupation in Illinois, employing about 775 people. Approximate regional employment is: Northeastern Illinois — 570, Northwestern Illinois — 100, East Central Illinois 30, West Central Illinois — 15, Southwestern Illinois — 40, and Southeastern Illinois — 20. Growth among occupational therapy assistants will occur as a result of a growing and aging population who will require additional therapeutic services. In an effort to control costs, some institutions will hire more occupational therapy assistants and aides instead of therapists to perform routine tasks. However, because this occupation is small, few annual job openings are anticipated. Competition for jobs is expected to remain keen. According to the Illinois Department of Employment Security, the short-term forecast for "occupational therapy assistants" is favorable. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&818200&fr)

Community colleges are the major source of training for occupational therapy assistants (OTA). Seventy-nine OTA graduates responded to the survey, yielding a response rate of 65.8 percent. Ten colleges provided information about their OTA graduates. South Suburban College, Illinois Central College, and Wilbur Wright College offered the largest programs in this specialty area. Ninety-four percent were employed, pursuing additional education, or both. Nearly 84 percent were employed and not pursuing additional education. Nearly 15 percent were both employed and pursuing additional education. Only 1.4 percent were exclusively pursuing further education. The unemployment rate for OTAs was 2.5 percent, well below the average for a graduate of 4.3 percent. Graduates employed in a related field were satisfied with their position, ($\underline{M} = 4.23$).

Eighty-four percent of the OTA graduates were working in the field. A dozen graduates were employed in unrelated positions. Eight of the twelve were working in another field because they were not able to find a position as occupational therapy assistants. Two preferred to work in another field, one worked in the field previously but changed, and one listed other as the reason for working in an unrelated position. Based on survey responses, Parkland College and Illinois Central College appear to be among those whose OTA graduates could benefit from further assistance in locating related positions.

OTA is a licensed occupation, hence as anticipated 90 percent of graduates began their position after program completion. Five OTA graduates began their job prior to program entrance with most working in unrelated positions. Only 50 percent of OTA graduates were working within their community college district. Another 40 percent were working out-of-district, but in Illinois. Nearly 10 percent were employed out-of-state.

Nearly 85 percent of working graduates were employed full-time. Full-time OTA graduates from community colleges earned $14.37/hour which is over two-and-one-half times the minimum wage of $5.15/hour. The ten part-time OTA graduates who responded with salary information were employed in

urban areas and made $15.78/hour. While few graduates in part-time positions reported earnings, the hourly rate for part-time OTA graduates was the highest among all occupational programs. According to a membership survey of the American Occupational Therapy Association, assistants earned an average starting salary of $27,442/year in 1995. Starting salary tends to be lower in hospitals and higher in privately owned practices and nursing homes. In Illinois, occupational therapy assistants earned average salaries ranging from $25,397-$40,144/year in 1998, according to the Occupational Wage Survey. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ&818200&fr). The annual salary of $29,889 for community college OTA graduates is well within the range in Illinois.

Survey results indicate that OTA graduates overall satisfaction rating of components in their major (M = 4.21) was comparable to the overall average of 4.27 for all graduates. OTA graduates awarded consistently high ratings of course content (M = 4.52), lecture/lab experiences (M = 4.45), and equipment/facilities/materials (M = 4.45). Similarly, OTA graduate ratings of college services (M = 4.16) were comparable with the overall average of 4.22. Graduates ratings for individual services and components were fairly close to average in all cases, although particularly low was the rating on labor market employment information (M = 3.57).

Comparisons between 1999 OTA graduates with 1994 completers show favorable outcomes for graduates from both years with high employment. As illustrated in Figure 3, the 1999 graduates had slightly higher rates of employment and/or continuing education and a larger percentage of graduates working in the district where they had received their training.

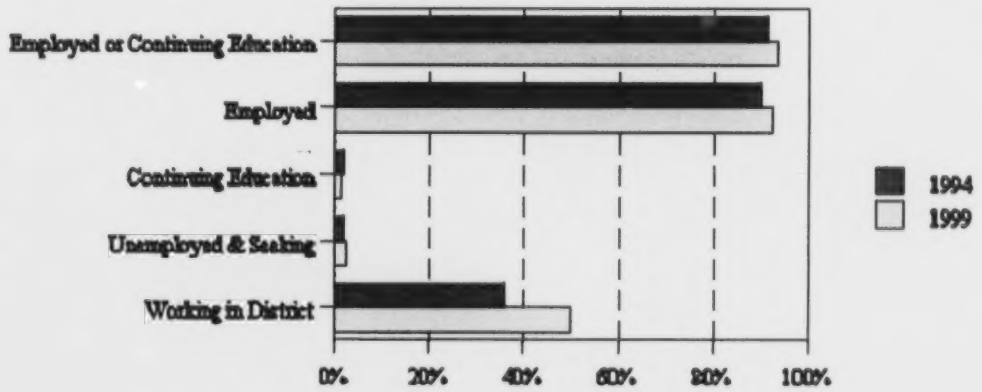

Figure 3. Occupational Therapy Assistant Graduates: FY 1994 & 1999

Medical Assistant is one of the fastest growing professions in the State of Illinois. (*Horizons*, 2001)

Medical Assistants. Medical assistants facilitate the smooth operation of health care offices by completing both administrative and clinical tasks. Typical duties include scheduling and receiving patients and taking temperatures, blood pressure, and height and weight measurements. They assist in examinations, sterilize

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instruments, and maintain medical records. Under the doctor's direction, they may also give injections, assist in collecting samples for analysis, perform standard laboratory tests, and order and maintain supplies. The medical assistants' duties can vary with employer, and they often overlap those performed by medical secretaries and nurses. The medical secretary performs the more clerical tasks, while the nurses' duties are more clinical. Medical assistants may choose to work in specialty offices, such as a pharmacy, medical lab, physical therapy clinic, occupational therapy clinic, ophthalmic lab, or veterinary clinic. *(Occupational Outlook Handbook*, 2000, http://stats.bls.gov/oco/ocos164.htm and *Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&818600&fr).

Employment of medical assistants is expected to rise much faster than average through 2006 in both the state and nationwide. Medical assistant is one of the fastest growing professions in Illinois. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ& 818600&fr). Employment growth will be driven by the increase in the number of group practices, clinics, and other health care facilities that need a high proportion of support personnel, particularly medical assistants who can handle both administrative and clinical duties. Medical assistants primarily work in outpatient settings where much faster than average growth is expected. Most employers prefer graduates of medical assisting programs who have obtained certification. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&113400&fr)

In Illinois, this is a medium-sized occupation with 10,735 medical assistant workers. Approximate regional employment is as follows: Northeastern Illinois — 6,905, Northwestern Illinois — 900, East Central Illinois — 430, West Central Illinois — 740, Southwestern Illinois — 900, and Southeastern Illinois — 860 (http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&818600&fr)

Medical assistant is a mid-sized program within the community college system. Thirty medical assistant graduates responded to the survey for a response rate of 68.2 percent. Southwestern Illinois Community College, South Suburban College, and William Rainey Harper College provided information on their medical assistant graduates. Southwestern's program accounted for 25 of the 30 graduate respondents.

Nearly nine out of ten medical assistant graduates were either employed, pursuing additional education, or both. Twenty-two graduates were exclusively employed. Two graduates were exclusively pursuing further education. Similarly, two graduates were employed and pursuing additional education. Three medical assistant graduates were unemployed.

Ninety-two percent of the graduates were employed in jobs that were related to their training. Graduates employed in a related field were satisfied with their jobs ($\underline{M} = 4.14$), although this rating was slightly below that of all graduates. Two graduates were working outside their field — one because he/she preferred to work in another field and the other found higher pay in another field.

Fifty-four percent of medical assistant graduates began their positions after they completed their college program. A large proportion, 83.3 percent, were working within the community college district where they received their training. Only 4.2 percent were working outside of Illinois.

Approximately 83 percent of working graduates were employed in full-time positions. Full-time medical assistants graduating from community colleges made $8.69/hour or about $18,075 per year. The three part-time graduates who reported earnings data had similar earnings at $8.83/hour. Both full- and part-time graduates earned more than one-and-one-half times the minimum wage. According to a 1997 national survey, earnings for medical assistants vary widely depending on experience, skill level, and location. Graduates with less than two years of experience have an average hourly ranged from $8.07 - $10.90. Those with more than five years of experience ranged from $10.38 - $13.46. The 1998 Occupational Wage Survey for Illinois reports average wages for medical assistants ranging from $8.43 - $12.05/hour, or between $17,534 - $25,064/year. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&818600&fr). Earnings by community college medical assistant graduates were comparable to all workers in the field.

Although medical assistant graduates were satisfied with the components in their major ($\underline{M}$ = 4.19) their rating was slightly below the overall average of all graduates ($\underline{M}$ = 4.27). Medical assistant graduates were most satisfied with their lecture/lab experiences ($\underline{M}$ = 4.55) and course content ($\underline{M}$ = 4.38). Their rating on services for occupational programs ($\underline{M}$ = 4.25) was slightly above the rating for services among all graduates ($\underline{M}$ = 4.22). Financial aid was rated most satisfactory($\underline{M}$ = 4.50), while tutoring ($\underline{M}$ = 3.50) and academic advising ($\underline{M}$ = 3.73) were rated less satisfactory.

Comparisons between 1999 medical assistant graduates with 1994 completers show positive results across both years. Overall outcomes for 1994 graduates were slightly more positive than among more recent graduates. As Figure 4 shows, 1994 graduates had a higher combined percentage of employment and/or continuing education. Additionally, 1994 graduates had a higher employment rate than 1999 graduates. Graduates in 1999 were more likely to be working within the college district and engaged exclusively in further education.

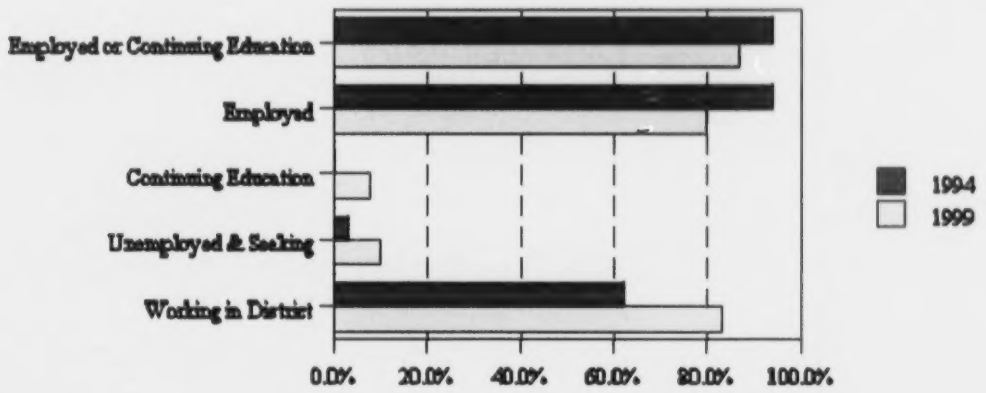

Figure 4. Medical Assistant Graduates: FY 1994 & 1999

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Nationally and in Illinois, employment of child care workers is expected to grow much faster than the average for all occupations through 2006. (*Horizons*, 2001)

Child Care. Child care professionals tend to children's basic needs (e.g., teach nutritional eating habits and personal hygiene) and conduct activities that stimulate children's physical, emotional, intellectual, and social growth. Most of the time, child care workers interact with children under five years of age. From the end of the school day until parents complete their workdays and during school vacations, they may also supervise the activities of older children. Child care workers help youngsters explore their interests, develop their talents and independence, build self-esteem, and maintain discipline so children learn how to behave appropriately with others. Play is used to stimulate language development, improve social skills, and provide an introduction to scientific and mathematical concepts. Entrepreneurs with child care training and sufficient financial resources may start their own businesses in the field usually after gaining some direct child care experience. Self-employment is common in this field. About 40 percent of preschool teachers and child-care workers — more than four times the proportion for all workers — are self-employed; mostly as family child-care providers. (*Occupational Outlook Handbook*, 2000, http://stats.bls.gov/oco/ocos170.htm).

Illinois day care institutions are required to meet the licensing requirements of the Department of Children and Family Services. As a regulated industry, the state maintains requirements for directors of child care facilities and child care workers. In Illinois, approximately 23,505 people are employed as child care workers. According to the Illinois Department of Employment Security, the short-term forecast for child care workers through the year 2000 is very favorable. Turnover in this occupation is high frequently due to either competing responsibilities among workers or dissatisfaction with long hours, relatively low pay and benefits, and stressful working conditions. (*Occupational Outlook Handbook*, 2000, http://stats.bls.gov/oco/ocos170.htm). According to the Illinois Occupational Information Coordinating Committee analysis, 505 annual openings are expected for child care workers annually in Illinois through 2006. (http://www.ioicc.state.il.us/JOIB/ joibtop4.htm).

Child care is a large occupational program in community colleges. Three hundred ninety-five child care graduates from the community college system responded to the survey, yielding a response rate of 61.5 percent. Forty-two colleges provided information about their fiscal year 1999 child care program graduates. Overall outcomes were positive for child care graduates. Nearly 95 percent of the graduates were either employed, pursuing additional education, or both. Seven out of ten child care graduates were working exclusively. Less than 5 percent were exclusively involved in additional schooling. One-quarter (N = 94) were both employed and enrolled in further education. Among those who were both working and pursuing additional education, three out of four were studying in a related field. The unemployment rate among child care workers was 3.0 percent.

Nearly 84 percent of the employed child care graduates were in positions working with children. Individuals employed in positions related to their training were satisfied with their jobs ($\underline{M}$ = 4.22 on a 5.00 point scale). The remaining 58 individuals most frequently cited the following as reasons for working outside the field: found better pay in another field (31.0 percent), other/unknown (29.3 percent), temporary

position (10.3 percent), took another position to get preferred working hours (8.6 percent), and worked previously in the field but changed (8.6 percent). The lower than average pay and long hours alluded to in the occupational overview appear to have had some impact on community college graduates who elected to work outside the field.

Seventy-eight percent of the child care workers located their current positions either while enrolled or after completing their studies. Graduates from these programs frequently remain in the area where they received their training to work. Eight out of ten child care graduates worked in the community college district where they received their training. Seventeen percent were working outside of the district where they were trained, but still in Illinois. Less than 4 percent were working outside of Illinois.

Approximately 84 percent of working graduates were employed in full-time positions. The average wage for full-time child care workers who graduated from community colleges was $10.26 an hour or the equivalent of approximately $21,340 annually. Hence, full-time workers earned twice the minimum wage ($5.15/hour). Child care graduates employed part-time earned $8.13 per hour or just over one-and-one-half times the minimum wage. While the child care area is known for relatively low pay, the earnings of Illinois Community College System graduates tended to be on the high side for all workers in this field. According to the *Occupational Outlook Handbook*, 2000 (http://stats.bls.gov/oco/ocos170.htm), national median hourly earnings of child care workers were $6.61/hour in 1998. Nationwide, the middle 50 percent earned between $5.82 and $8.13 an hour. In state, according to the 1998 Occupational Wage Survey for Illinois, child care workers earned an average wage ranging from about $5.81-$9.29/hour, or between $12,085-$19,323/year. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ ilcis/ info. exe?Occ&844900&fr). Occupational overview information indicate that benefits vary, but are minimal for most preschool and child care workers. Many employers offer free or discounted child care to their employees. (*Occupational Outlook Handbook*, 2000, http://stats.bls.gov/oco /ocos170.htm)

Overall, child care respondents were satisfied with the components in their major ($\underline{M}$ = 4.40). In fact, child care graduates rated all six components of the programs they completed above the statewide average. Course content ($\underline{M}$ = 4.54) and lab/lecture experience ($\underline{M}$ = 4.53) were rated as highly satisfactory. Across program areas, child care graduates were among the most satisfied with their job preparation ($\underline{M}$ = 4.45). Although still in the satisfied range, the lowest rated program component for child care completers was their level of satisfaction with available labor market employment information ($\underline{M}$ = 4.14). Given the high turnover, lower than average wages, and limited benefits provided to workers in this occupation, program officials are encouraged to put forth sufficient effort to provide students with complete labor market and occupational information early in their programs.

Overall, child care program graduates were also satisfied with college services ($\underline{M}$ = 4.28). Highly rated services included the quality of the library/audio visual materials ($\underline{M}$ = 4.51), activities ($\underline{M}$ = 4.42) and financial aid ($\underline{M}$ = 4.27). Transfer planning ($\underline{M}$ = 3.84) was rated lowest by child care graduates, but still in the satisfied range.

Comparisons between 1999 child care graduates with 1994 completers show positive outcomes for graduates from both years with more recent completers exhibiting slightly better results. As illustrated in Figure 5, graduates from fiscal year 1999 had higher rates of employment and/or continuing education, a larger portion of graduates working in the district where they received their training, and a slightly lower unemployment rate. Graduates from fiscal year 1994 had a higher percentage exclusively pursuing further education. In spring 2000 when the latest survey was conducted, the Illinois economy was strong and employment opportunities were generally plentiful. Levels of full-time employment among child care graduates in both years were comparable at approximately 84 percent.

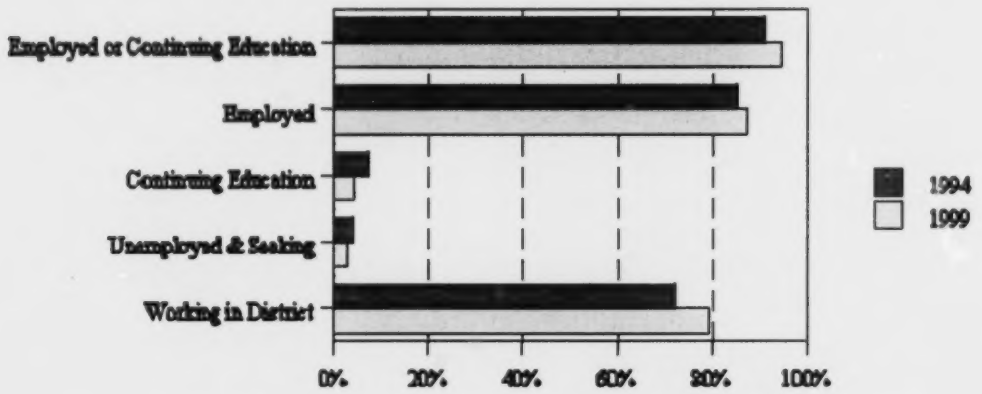

Figure 5. Child Care & Guidance Worker/Manager Graduates: FY 1994 & 1999

The short term forecast for the occupation of teacher aide is very favorable according to the Illinois Department of Employment Security.

Teacher Assistant/Aide. Teacher assistants and aides work in elementary and secondary schools. They assist teachers by supervising children and providing clerical support activities, such as grading papers, reviewing assignments, and filing. Under the supervision of teachers, teacher assistants and aides may instruct students. (*Horizons, 2001*, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&844600&fr). The 44,180 people employed as teacher aides in Illinois may work with all students in a classroom or may be assigned to assist students with special needs (e.g., students who speak Englishas a second language, special education students, etc.). (*Occupational Outlook Handbook*, 2000, http://stats.bls.gov/oco/ ocos153.htm#nature)

Employment in this field is dependent on the population. Approximately 50 percent of teachers aides work full time. Currently, teacher assistant/aide is one of the 50 fastest growing occupations in the state. (*Horizons,* 2001, http://www.ioicc.state.il.us/scripts/ ilcis/info.exe?occ&844600&fr)

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The response rate was 77.4 percent as 48 of the 62 teacher assistant graduates responded to the survey. Fourteen colleges provided information about their fiscal year 1999 teacher assistant/aide program graduates. Nearly 94 percent of graduates were either employed, pursuing additional education, or both. Among graduates who were both working and pursuing additional education, more than three out of four were studying in a related field.

Eighty-five percent of the graduates were working. Two teacher assistant/aide graduates were unemployed (4.2 percent). The remaining five were not actively seeking employment.

Seven out of ten teacher assistant/aide graduates were working in a related field. The 12 individuals not working in a related field cited the following reasons: could not find a position in field (N = 4), other (N = 4), found better pay in another field (N = 2), preferred to work in another field (N = 1), and didn't complete or pass licensing to be eligible (N = 1). Graduates that were employed in a field related to their training were satisfied with their jobs (M = 4.36).

Seventy-one percent of teacher assistant/aide graduates located their current positions either while enrolled or after completing their program. Nearly 84 percent of graduates from this program remained in the district where they received their training to find employment. Approximately 14 percent were working outside of the district they were trained in, but still in Illinois. Less than 3 percent were working outside the state.

Approximately 71.8 percent of working graduates were employed in full-time positions. The average wage for full-time teacher assistant/aide workers who were community college graduates was $8.44 an hour or the equivalent of $17,555 annually. Teacher assistant/aide graduates working part-time earned $6.61 per hour. According to *Horizons*, 2001, wages vary with the nature of the position and the location of the employing school district. Many aides are covered by health and pension benefits similar to the teachers in their schools. Nationally, according to a 1998 Bureau of Labor Statistics survey, teacher aides averaged $7.68 per hour or around $15,974 annually. According to the 1998 Occupational Wage Survey, in Illinois teacher's aides involved in teaching activities earned salaries ranging from about $12,770 - $19,656 per year. Other educational assistants in Illinois earned between $12,480 - $18,658 yearly. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&844600&fr). Community college in full-time positions earned competitive wages compared to others in their chosen field. Earnings for graduates of teacher assistant/aide programs in part-time positions were low because they earned just one and one-quarter times the minimum wage.

Overall, teacher assistant/aide respondents were satisfied with the components in their major (M = 4.10). Respondents rated course content (M = 4.53) and equipment/facilities (M = 4.38) the highest. The lowest rated component for teacher assistant/aide graduates was the availability of labor market employment information (M = 3.59).

Teacher assistant/aide graduates were also satisfied with college services (M = 4.22). Respondents gave the highest ratings to tutoring (M = 4.57), library/audio visual materials (M = 4.47), and financial aid (M

= 4.44). Transfer planning (M = 4.00) was rated the lowest by teacher assistant/aide graduates, but still fell within the satisfied range.

Comparisons between 1999 teacher assistant/aide graduates and 1994 completers, while positive, were somewhat mixed. As illustrated in Figure 6, graduates from fiscal year 1999 had higher rates of employment and/or continuing education, as well as a higher rate of full-time employment. Graduates from fiscal year 1994 had a lower unemployment rate and a larger portion of graduates working in the district where they received their training. Rates of graduates exclusively pursuing additional education were about the same.

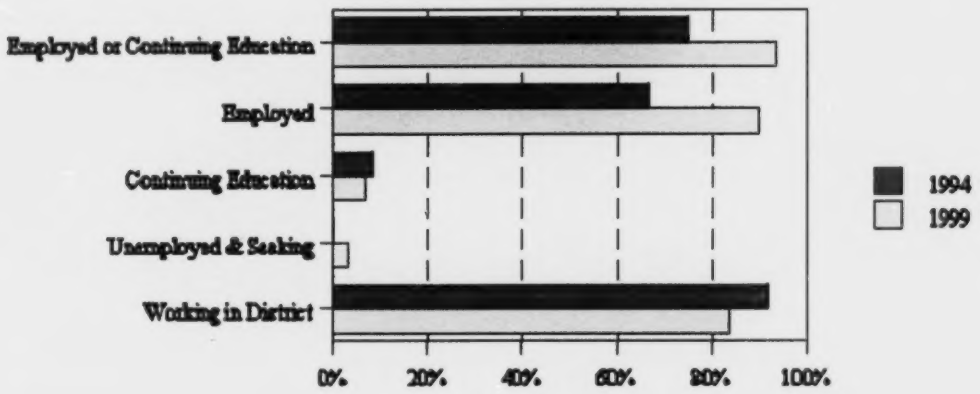

Figure 6. Teacher Assistant/Aide Graduates: FY 1994 & 1999

Opportunities for mechanics and repairers varies by speciality but should be generally good. The outlook for diesel mechanics is least favorable. (*Horizons*, 2001)

Vehicle and Mobile Equipment Mechanics and Repairers. There were 218 vehicle and mobile equipment mechanics/repairers graduates in four program specialty areas from 36 community colleges who responded to the current Occupational Follow-up Survey. Graduates from these programs diagnose and repair a variety of different vehicles. Automotive mechanics work on automobiles and light trucks which are largely powered by gasoline engines. Aircraft mechanics specialize in preventive maintenance on airplanes. Diesel mechanics/mobile heavy equipment mechanics maintain diesel engine powered heavy machinery and equipment fleets. Auto body program completers fix or replace damaged automobile and truck body components and frames. (Occupational Outlook Handbook 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&841700&fr)

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The four community college vehicle and mobile equipment mechanics and repairers programs included in this report are:

Program Area	CIP Code
Auto/Automotive Body Repairer	470603
Auto/Automotive Mechanic/Technician	470604
Diesel Engine Mechanic and Repairer	470605
Aviation Systems and Avionics Maintenance Technologist/Technician	470609

In Illinois, automotive mechanic is one of 50 occupations expected to provide the most job openings each year. Demand is strong because the growing complexity of automotive technology makes it increasingly difficult for individuals to maintain their own vehicles. *(Horizons*, 2001)

Automotive Mechanic/Technician. Automotive mechanics and service technicians inspect, maintain, and repair gasoline powered vehicles. They work on automobiles and light trucks, including sport utility vehicles (SUVs), minivans, vans, and pickups. The majority are employed by automotive dealers, independent auto repair shops, or gasoline service stations. *(Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&841700&fr)

In Illinois, auto mechanics is a large occupation with about 34,995 workers. A combination of formal training and on-the-job experience is the best way to prepare as an auto mechanic. Most mechanics supply their own hand tools, which can range from around $500-$1,200 for a beginner to over $10,000 for an experienced mechanic. Job opportunities for trained automotive mechanics are expected to be plentiful. Nationally and in Illinois, employment is expected to grow about as fast as average through 2006. Employment opportunities are best in large cities with nearly two-thirds of all auto mechanics in Illinois employed in the northwestern part of the state. According to the Illinois Department of Employment Security, the short-term forecast for automobile mechanics through the year 2000 is very favorable. Automotive technology careers provide the opportunity for good pay and highly skilled work with technologically advanced vehicles. *(Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&311200&fr)

Automotive mechanic/technician training is a substantial program in the Illinois Community College System. Thirty-four community colleges reported on their automotive mechanic program graduates in fiscal year 1999. Fifty-four percent of the automotive mechanic program graduates responded to the survey. Nine out of ten graduates were either working, going to school or both. Three-quarters were working exclusively, 19.9 percent were both employed and pursuing additional education, and 5.3 percent were only enrolled in further training. Among those individuals who were both employed and pursing further education, slightly more than one-half (N = 17 or 56.7 percent) were studying in a related field.

Eighty-seven percent of the graduates were working. Among working automotive mechanic graduates, nine out of ten were employed in full-time positions. The unemployment rate for automotive mechanic completers was 3.0 percent. Ten percent were not actively seeking employment.

Eight out of ten working graduates were in positions related to the field of automotive technology. Nearly four times as many individuals who were working in the field responded to the question about how satisfied they were with their jobs. Those employed in a related position were satisfied with their jobs ($\underline{M} = 3.99$). Those working outside of the field were slightly more satisfied with their employment ($M = 4.22$). Among the 29 individuals working outside of the field, the following reasons were rated as contributing factors: found better pay in another field ($N = 8$), other/unknown ($N = 7$), unable to find a job in the field ($N = 3$), preferred to work in another field ($N = 3$), took another job to get preferred working hours ($N = 3$), had temporary job while in transition ($N = 2$), worked in the field previously but changed ($N = 1$), health problems ($N = 1$), and did not pass licensing ($N = 1$). Nearly two-thirds of the reasons cited for working outside the field have a negative aspect to them and are worth further examination by the colleges.

Three-quarters of the community college automotive mechanic program completers obtained their current positions either after graduation or during program enrollment. Over 95 percent of the employed graduates were working in Illinois. Nearly six out of ten were working in the district where they received training.

Illinois Community College System graduates in full-time positions earned $13.46/hour or the equivalent of $27,997 on an annual basis. Nationally, according to a Bureau of Labor Statistics survey, in 1998 auto mechanics earned an average wage of about $25,636/year or $12.33/hour. The 1998 Occupational Wage Survey for Illinois reports average salaries ranging from $20,488 – $37,045/year or between $9.85-$17.81/hour depending on the area of the state. Median hourly earnings of automotive mechanics and service technicians, including commission, were $13.16 in 1998. The middle 50 percent earned between $10.02 and $17.14 an hour. The lowest 10 percent earned less than $7.44 and the highest 10 percent earned more than $21.25 an hour. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&841700&fr) Only seven part-time graduates of Illinois community college automotive mechanics programs reported earnings data which averaged $7.49/hour. Community college graduates who had part-time positions received low pay. Four of the seven were working outside the field.

Satisfaction levels among automotive mechanics were generally above average. Overall automotive mechanics graduates were satisfied ($\underline{M} = 4.32$) with the components of their major programs. Course content ($\underline{M} = 4.46$) and lecture/laboratory experiences ($\underline{M} = 4.43$) were rated highest among automotive mechanic completers. Equipment and facilities used in conjunction with the program ($\underline{M} = 4.36$), job preparation provided ($\underline{M} = 4.32$), and preparation for further education ($\underline{M} = 4.27$) also received strong satisfaction ratings. Although somewhat lower, automotive mechanics satisfaction with labor market information ($\underline{M} = 4.16$) was among the highest rated across all program graduates who participated in the survey.

Overall, automotive mechanic program graduates expressed satisfaction levels with services provided by the community college (M = 4.23) they attended. Services rated highest by automotive mechanics completers included library/audio visual materials (M = 4.37), student activities (M = 4.36), and counseling (M = 4.33). Automotive mechanic graduate satisfaction level ratings were lowest for transfer planning (M = 3.90), but still in the satisfied range and about the same as the ratings by graduates from other programs surveyed this year.

Figure 7 contains comparative information about selected items between automotive mechanics graduates in 1999 with 1994 completers. Outcomes for graduates from both time frames were similar with more recent graduates showing slightly more positive results. Graduates in 1999 had a lower unemployment rate than their counterparts from 1994 with both involving relatively small numbers of graduates (N = 5 in 1999 versus N = 17 in 1994). Current unemployment levels among automotive mechanics are lower than average, whereas they were higher than average among 1994 completers. Although comparable, more recent graduates exhibited slightly higher levels of employment and/or continuing education, employment, and working within the district where they were trained. Graduates from 1994 were slightly more likely to be exclusively pursuing additional education.

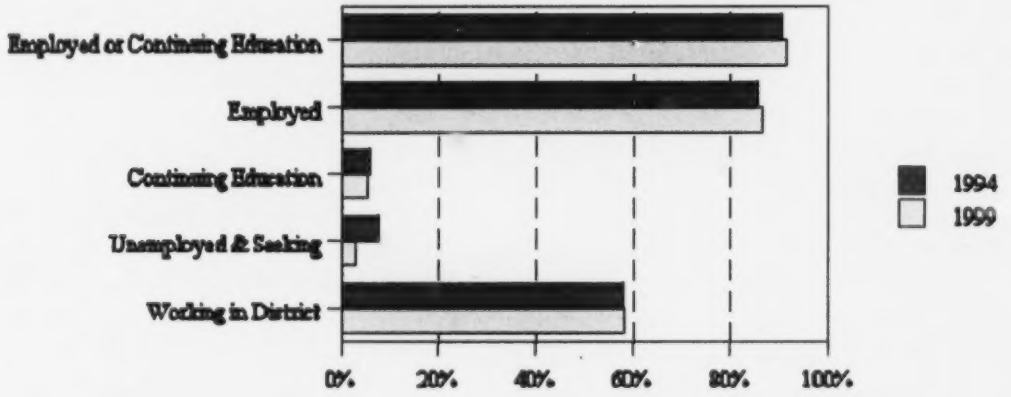

Figure 7. Automotive Mechanic/Technician Graduates: FY 1994 & 1999

Employment opportunities for auto body repairer are projected to increase about as fast as the average for all occupations through 2006. The short-term forecast for auto body repairers in Illinois through the year 2000 is favorable. *(Horizons*, 2001)

Automotive Body Repair. Auto body repair involves fixing or replacing damaged automobile and truck body components and frames. Auto body repairers remove dents from body panels, weld metal, replace body parts, and straighten frames. Employers include auto body/ repair/paint shops and automotive dealer service departments. In small shops, repairers perform a range of responsibilities: providing estimates, repairing/ replacing damaged parts, surface preparation, matching

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and mixing paint, and paint application. Self-employment is an option for those with experience and sufficient financial resources. Others seek advancement opportunities as shop supervisors or automobile insurance appraisers. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ&548600&fr)

About 10,965 workers are employed in this medium-sized occupation in Illinois. Two-thirds of the workers in this field are employed in northeastern Illinois. Many of the job openings in the state will result from workers leaving the labor force. Competition may be keen favoring individuals who complete formal training programs. Auto body repairers often provide their own hand tools with a basic set costing approximately $1,500 and a more comprehensive set ranging in cost from $5,000 - $10,000. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ&548600&fr)

Automotive body repair is a relatively small program across the community college system. The response rate for automotive body repair graduates was 50.9 percent (N = 28 of 55). The reader should consider the small number of respondents as results are reviewed. Ten colleges reported on the outcomes of their graduates. Waubonsee Community College had the largest program in the state and accounted for over one-third of the respondents. All of the graduates who responded to the survey were either gainfully employed, continuing their studies, or both. Twenty-three were working exclusively, one individual was solely attending college, and four were both working and pursuing additional education. Three of the five individuals who reported the relatedness of their current studies to the community college program they completed were pursuing further studies in another subject area.

Mixed messages are uncovered when employment outcomes among graduates are focused upon. Auto body graduates are employed, largely in full-time positions, but fewer are working in the field than one might have anticipated. Ninety-six percent of the auto body completers were working. Among working auto body repair graduates, 92.6 percent were in full-time positions. One person indicated that he was unemployed and was simultaneously pursuing additional education. However, only 42.3 percent (N = 11 of 26) of the auto body repair program completers were working in the field. Reasons cited for working outside of the area included: preferred to work in another field (N = 4), found better pay in another field (N = 3), other/unknown (N = 3), wanted to remain in the local area (N = 2), unable to find a job in the field (N = 1), worked in the field previously but changed (N = 1), and working in a temporary job (N = 1). Twenty-five individuals supplied information about their degree of satisfaction with their work. Graduates working in their chosen field of study ($\underline{M}$ = 4.20) had higher satisfaction ratings than those who chose to work outside the field ($\underline{M}$ = 3.73) of auto body repair. The number of individuals working outside of the area is a concern and worth further examination at the local level.

Auto body completers in both related and unrelated full-time positions earned $11.39 per hour or approximately $23,691 annually. Only two individuals in part-time positions reported earnings data. A survey conducted by the Bureau of Labor Statistics shows national average earnings in 1998 were about $12.75/hour, or around $26,520/year. Trainees are usually paid 30 to 60 percent of the wages earned by skilled workers. The 1998 Occupational Wage Survey for Illinois reports average wages ranging from about $10.61 - $18.95/hour, or between $22,069 - $39,416/year. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&548600&fr)

Seventeen graduates obtained their current positions either during enrollment or after program completion. Eight auto body repair graduates had their current jobs prior to starting their community college studies. All auto body repair program completers were working in Illinois and contributing to the tax base with three-quarters employed in the district where they received their training.

Overall, auto body repair graduates expressed relatively high levels of satisfaction with the programs they completed (M = 4.21). The following areas received the highest levels of satisfaction among auto body repair completers: lecture/lab experiences (M = 4.61); course content (M = 4.39); and equipment, facilities and materials (M = 4.29). As anticipated, due to the relatively high levels of employment in unrelated areas among these graduates, labor market information availability was rated lowest (M = 3.81) and job preparation was rated relatively low (M = 4.00), but both ratings are still in the satisfied range.

Auto body graduates were generally satisfied with college services (M = 4.11). The highest rated services included student activities (M = 4.43), library/audio visual materials (M = 4.33), tutoring (M = 4.25), and counseling (M = 4.20). Auto body program completers were less satisfied with academic advisement (M = 3.80) and transfer planning (M = 3.88).

Figure 8 contains information about auto body repair completers from 1999 and 1994. Results are similar for both groups, but results for more recent graduates tended to be higher. Fiscal year1999 graduates were all either working or involved in further education; employment levels were high and unemployment low, but the extent to which individuals were working outside the field is a concern; and in-district employment was high.

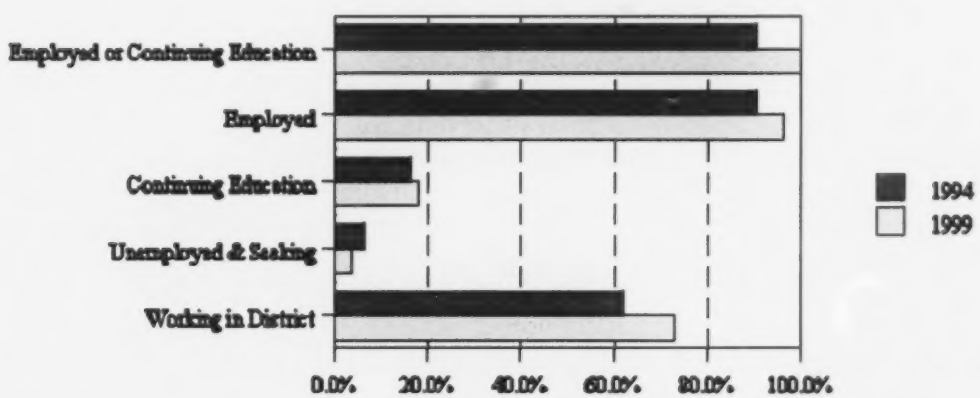

Figure 8. Auto Body Repair Graduates: FY 1994 &1999

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Nationally and in Illinois, slower than average growth is expected for truck and heavy equipment mechanics through 2006. Demand for skilled diesel repair persons is expected to remain constant. In Illinois, the short-term forecast for heavy equipment mechanics through the year 2000 is rated as unfavorable. (*Horizons*, 2001)

Diesel Engine Mechanic/Technician. Diesel mechanics inspect, maintain, and repair diesel powered vehicles and equipment to help ensure its safe operating capability and promote longevity. On-board computers are used to diagnose problems and help identify components needing adjustment or repair. Diesel mechanics are frequently employed by large truck service departments; construction equipment distributors; large construction companies; local, state, and federal government; independent repair shops catering to semi truck and other large equipment operators; or other organizations operating and maintaining heavy machinery and equipment fleets. (*Horizons*, 2001, http://www.ioicc.state.il.us/ scripts/ilcis/ info.exe?occ&311400&fr

Around 15,750 people are employed as truck and heavy equipment repairers in Illinois. In this medium sized occupation, approximately 70 percent of the workers are employed in the northeastern part of the state. Self-employment is relatively rare with fewer than 1 in 20 mobile heavy equipment mechanics self-employed. (*Occupational Outlook Handbook*, 2000, http://www.ioicc.state.il.us/ scripts/ilcis/info.exe?occ &841700&fr)

Each year, there are large numbers of people who complete training that qualifies them to work as truck or heavy equipment mechanics. Many truck and heavy equipment mechanics receive training through apprenticeship programs. Although growth is projected as minimal, additional job openings are expected to occur as the need for replacement workers arises when experienced individuals leave the labor force.

A limited number of diesel engine mechanic preparation programs are offered in the community college system with only a handful of colleges reporting enrollments in fiscal year 1999. Wabash Valley College and Southeastern Illinois College reported results for their graduates. Approximately three-quarters (N = 13 of 18) diesel engine mechanic graduates responded to the survey yielding a response rate of 72.2 percent. With such small numbers, relatively small numerical changes yield large percentage differences. Twelve of the thirteen graduates were either employed (N = 5), in school (N = 2), or both (N = 5). The five diesel mechanic graduates that were both working and continuing their education were all studying in a related area.

Nine of the ten working graduates were in full-time positions with eight of them were working as diesel mechanics. The single part-time worker was also in a related position. The one individual who chose to work in another field did so because he found a better paying position elsewhere. Eight out of ten diesel mechanic completers gained their current positions either while enrolled or after program completion. The location of employment for diesel mechanics was as follows: in-district (N = 6), out of district (N= 3), and out of state (N = 1).

Only full-time workers who completed the diesel mechanics curriculum provided salary information, and they reported earnings of $8.44/hour or $17,555/year. Earnings among community college graduates were fairly modest; however, it is common for new entrants to this field to have low initial wages. Beginning apprentices usually earn from 50 to 75 percent of the rate of skilled workers and receive increases about every six months until they complete their apprenticeship. Nationally, in 1998, wages for truck and heavy equipment mechanics averaged about $29,674/year, or $14.27/hour on average. According to the 1998 Occupational Wage Survey for Illinois, truck and heavy equipment mechanics earned salaries ranging from $24,606-$42,848/year, or between $11.83- $20.60/hour. Three to four years of experience are necessary to qualify as a journeyperson.

The nine diesel mechanics who were working in their field rated job satisfaction very highly at 4.67 out of 5.00. Overall diesel mechanic graduates were satisfied with the programs they completed (M = 4.10). Course content (M = 4.62) was the most satisfactory component of the program to these graduates. They were less satisfied with available labor market information (M = 3.64) and equipment, facilities and materials (M = 3.85).

Likewise, completers of diesel mechanics programs were satisfied with the services that colleges provided (M = 4.22). Library and audio visual (M = 4.64) and tutoring (M = 4.50) were most satisfactory. Counseling (M = 3.25) and transfer planning (M = 3.75) were less satisfactory.

Results for graduates from 1994 and 1999 were similar. Employment levels and participation in continuing education were generally favorable among graduates of this small program.

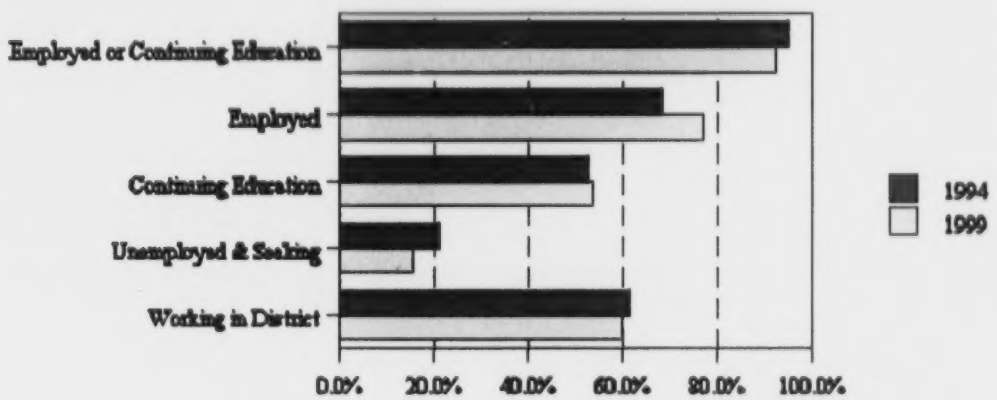

Figure 9. Auto Body Repair Graduates: FY 1994 & 1999

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In Illinois, slightly faster than average growth is expected in the employment of aircraft mechanics through 2006. The short-term forecast for aircraft mechanics is favorable. Overall, the job outlook for aircraft mechanics is expected to improve over the next ten years. *(Horizons*, 2001)

Aviation Systems and Avionics Maintenance Technician. Aircraft mechanics and service technicians are responsible for performing scheduled maintenance, making repairs, and completing required Federal Aviation Administration (FAA) inspections. Preventive maintenance is emphasized as aircraft technicians strive to ensure equipment safety and dependability. Aircraft technicians inspect and repair aircraft components including engines, landing gear, instruments, pressurized sections, and other major systems (e.g., brakes, valves, pumps, and air conditioning, etc.). (*Occupational Outlook Handbook* 2000, http://www.ioicc. state.il.us/scripts/ilcis/info.exe?occ&841700&fr)

The FAA certifies all aircraft mechanics and the requirements include being at least 18 years of age and graduation from an FAA-approved Aviation Maintenance Technician program, or 18 months of work experience under the supervision of a mechanic for an Airframe or Powerplant License, or 30 months for both licenses. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ&311600&fr)

This small occupation employs around 3,490 people in the state with over 80 percent employed in northeastern Illinois. These figures exclude those working in the military and nationwide the military is a major employer of aircraft mechanics. Almost all buy their own hand tools with costs at least as high as general mechanics whose hand tools cost between $500-$1,200 for beginners and exceed $10,000 for experienced workers.

Nationwide, about two-thirds of all salaried mechanics worked for airlines or airports, approximately one out of eight worked for the federal government, and about one out of seven worked for aircraft assembly firms. Most of the rest were general aviation mechanics, the majority of whom worked for independent repair shops or companies that operate their own planes to transport executives and cargo. Few mechanics were self-employed. (*Occupational Outlook Handbook* 2000, http://www. ioicc.state.il.us/scripts/ilcis/info.exe?occ&841700&fr)

Employment prospects should be best with smaller commuter and regional airlines, FAA repair stations, and aviation services in general. Wages in these companies tend to be relatively low; therefore, the competition for these positions is lower than for jobs with major airlines. Individuals with multiple certifications or previous work experience will have an advantage. Individuals who possess combined airframe and power plant licenses and an aircraft inspector's license are most likely to advance to positions such as lead mechanics or crew chiefs, inspectors, lead inspectors, and shop supervisors. Others with broad maintenance and overhaul experience may become FAA inspectors. Opening an independent aircraft maintenance facility after gaining additional business and management training is an option, but few pursue it. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&841700&fr)

Aviation mechanics is highly specialized program in the community college system which enrolled 176 people in fiscal year 1999 at four colleges. Operational costs for these programs are high. Rock Valley College, Southwestern Illinois College, Richard J. Daley College, and Lincoln Land Community College reported on their aviation technician graduates. Nearly two thirds of the aviation mechanics graduates responded to the survey (N = 10 of 16). With such small numbers, relatively small numerical changes yield large percentage differences. All nine graduates who responded to both survey questions about their employment and continuing education status were either working (N = 7) or both working and pursuing additional education (N = 2). Both who were enrolled in further education were studying a related subject.

Eight out of nine were employed full-time and one was in a part-time position. All graduates were working in positions related to their training. Graduates were satisfied with their positions (M = 4.00). Seven of nine gained their current positions either while in the program or after program completion. Two had their position prior to program entrance. The FAA certifies all airplane mechanics so some of those enrolled were likely pursuing additional certifications. The location of employment for the nine graduates was equally distributed across the categories: in-district, out-of-district, but in state and outside Illinois.

The seven aircraft mechanic program completers employed full-time had an average salary of $20.00/hour or approximately $41,600 a year. The small group of community college system graduates who reported earnings received above average wages. One graduate in a part-time position provided earnings information. According to the 1998 Occupational Wage Survey, in Illinois aircraft mechanics earned average salaries ranging between $21,496 - $42,536/year, or $10.12 - $20.45/hour. Wages depend on the employer and level of skill. Nationally, the average income in 1998 was about $40,560/year, or on average $18.10/hour, according to a Bureau of Labor Statistics survey. The middle 50 percent earned between $14.91 and $22.12. The lowest 10 percent earned less than $11.92 and the highest 10 percent earned more than $24.40. Mechanics who work on jets for the major airlines generally earn more than those working on other aircraft. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&311600&fr).

Overall, aircraft mechanic program graduates were in the lower range of satisfaction with the programs they completed (M = 3.66). Satisfaction levels were highest for course content (M = 4.00) and lowest for job preparation (M = 3.44) and equipment facilities and materials (M = 3.50). Satisfaction ratings with college services are based on the views of four or fewer graduates who responded to this part of the survey. The few who responded had split views about their satisfaction with college services.

Figure 10 contains information about aircraft mechanic graduates from 1994 and 1999. One notable difference between the two years was the number of graduate respondents to the survey was much higher in the earlier study (64 in 1994 versus 10 in 1999). Among aircraft mechanic completers, employment and continuing education outcomes were similar in both years. Program outcomes were positive for both groups.

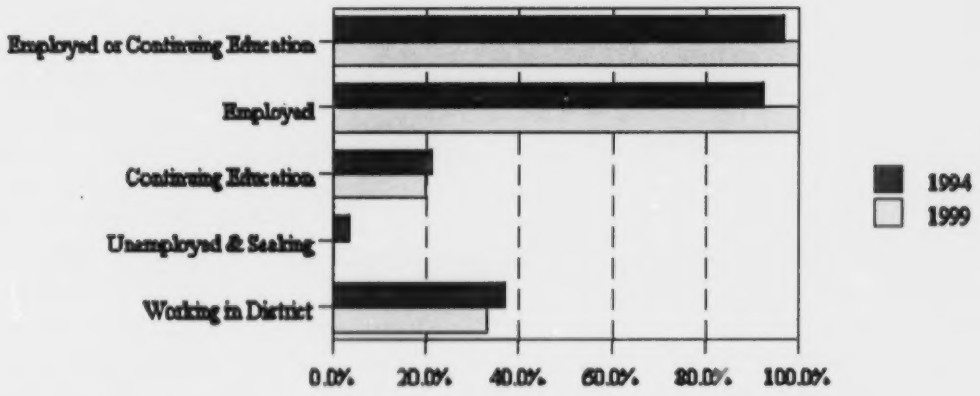

Figure 10. Aviation Systems/Avionics Maintenance Technician Graduates: FY 1994 &1999

Employment of truck and bus drivers is expected to increase about as fast as the average for all occupations through the year 2008

Truck, Bus, and Other Commercial Vehicle Operators. Bus drivers provide passengers with an alternative to using their personal automobiles to reach their destination. Bus drivers may operate school buses, charter buses, or as common carriers within a local area. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&614200&fr). Short haul truck drivers deliver goods locally. Long haul truckers operate trucks or tractor-trailer combinations to transport goods and materials over long distances.. Truck drivers are a constant presence on the nation's highways and interstates. Trucks provide a valuable link up with ships, trains, and airplanes as they usually make the initial pickup and final delivery of goods. Trucks carry nearly all goods at some point in their journey from producer to consumer. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ &614500&fr)

Nationwide, bus drivers held about 638,000 jobs in 1998. More than one-third worked part time. About two-thirds of all bus drivers worked for school systems or companies providing school bus services on a contractual basis. (Occupational Outlook Handbook 2000, http://www.ioicc. state.il.us/scripts/ilcis/info.exe?occ&614500&fr). Nationally, truck drivers held approximately 3.3 million jobs in 1998. Most truck drivers find employment in large metropolitan areas where major trucking, retail, and wholesale companies have distribution outlets. Some drivers work in rural areas providing specialized services. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state. il.us/ scripts/ilcis/info.exe?occ&614500&fr)

Bus and truck drivers must obtain a class B or C license depending on the weight of the vehicle. Applicants must be at least 21 years of age; have a good driving record; pay necessary fees; and pass a written test, vision test, and driving test through the Secretary of State's office. If a vehicle is designed to transport 16

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or more passengers, including the driver, or has a gross vehicle weight rating of 26,001 pounds or more, a driver must obtain a commercial drivers license (CDL). Commercial bus applicants must pass a physical exam, and renewal of the license is required every four years. Employers generally prefer drivers with experience and usually check traffic and police records. School bus drivers also must have a school bus driver permit. Many truck drivers belong to the Teamsters Union. The U.S. Department of Transportation maintains minimum qualifications for over-the-road drivers. The state of Illinois requires a class A license for semi-drivers. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ& 614200&fr)

The employment outlook is good for bus drivers through 2008. Many openings will be needed to replace departing employees. Opportunities should be best for individuals with good driving records who are willing to start on a part-time or irregular schedule, as well as for those seeking jobs as school bus drivers in growing metropolitan areas. Those seeking higher paying intercity and public transit bus driver positions can expect to encounter greater competition. (*Occupational Outlook Handbook*, 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&614500&fr and http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&614400&fr)

Likewise, employment opportunities should be favorable for trained truck drivers. Both nationally and in Illinois, employment of local truck drivers is expected to increase about as fast as average through 2006. This occupation has among the largest number of annual job openings with thousands of vacancies occurring due largely to experienced drivers transferring to other fields or retiring. Truck driving jobs vary greatly in terms of earnings, weekly work hours, number of nights spent on the road, and in the quality of equipment operated. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&614500&fr)

Truck and bus driver/commercial driver training is a substantial program in the community college system. Some institutions provide truck driving instruction through credit programs, while others offer similar training options through the noncredit branch of the college and still others offer training through both options. The focus of this review is on graduates from credit programs for truck and bus drivers. The response rate was 51.3 percent as 78 of 152 truck and bus driver credit program graduates returned completed surveys. Parkland College, Elgin Community College, and John Wood Community College reported on their graduates. Eighty-seven percent of the graduates were employed with all but two working in full-time positions. Among the remaining ten graduates, eight (10.2 percent) were unemployed and two were not actively seeking employment (2.6 percent). Just two commercial driver graduates were simultaneously working and pursuing additional education - one was studying in a related program and the other was not.

Among working graduates, 87 percent were working as professional drivers. While still in the satisfied range, commercial drivers working in the field had fairly low satisfaction ratings ($\underline{M} = 3.84$). Nine full-time workers were in unrelated positions, and they cited the following reasons for working elsewhere: preferred to work in another field (N = 4), other (N = 2), found better pay in another field (N = 1), worked in the field previously but decided to change (N = 1), and took job in another field to get preferred working hours (N = 1).

As anticipated in this regulated industry, nearly nine out of ten graduates obtained their current positions following program completion. Truck/bus driver training graduates working primarily either in the district where they received training (47.7 percent) or out-of-district, but within Illinois (44.6 percent) with the remaining five graduates working out of state.

Graduates of truck/bus driver training programs working full-time earned $13.65/hour or about $28,392/year. Earnings for truck/bus drivers were above average for all occupations surveyed this year. The two part-time workers who reported earnings were compensated at levels comparable to those of full-time workers. Earnings by community college truck/bus driver graduates were above average for the field.

According to the *Occupational Outlook Handbook* (2000) and *Horizons* (2001), earnings in this field can vary substantially based on the position held and the employer. Median hourly earnings of transit and intercity bus drivers were $11.72 in 1998. The middle 50 percent earned between $8.58 and $16.04 an hour. The lowest 10 percent earned less than $6.66, and the highest 10 percent earned more than $19.18 an hour. Median hourly earnings in the industries employing the largest numbers of transit and intercity bus drivers in 1997 were as follows: local government, except education and hospitals — $14.20; intercity and rural bus transportation — $10.50; local and suburban transportation — $10.20; school buses, contract — $10.20; and bus charter service — $8.80. Median hourly earnings of school bus drivers were $9.05 in 1998. The middle 50 percent earned between $6.33 and $11.44 an hour. The lowest 10 percent earned less than $5.59, and the highest 10 percent earned more than $14.00 an hour. Median hourly earnings of school bus drivers in 1997 were $9.20 in contract school buses and $8.60 in elementary and secondary schools.

Among truck drivers, median hourly earnings of light and heavy truck operators were $11.67 in 1998. The middle 50 percent earned between $8.80 and $15.57 an hour. The lowest 10 percent earned less than $6.51, and the highest 10 percent earned more than $19.14 an hour. Median annual earnings in the industries employing the largest numbers of heavy or tractor-trailer truck drivers in 1997 were as follows: trucking and courier services, except air — $14.10; groceries and related products — $13.30; local government, except education and hospitals — $11.60; highway and street construction — $11.40; and concrete, gypsum, and plaster products — $11.20.

As a general rule, local truck drivers receive an hourly wage and extra pay for working overtime, typically after 40 hours. Employers pay long-distance drivers primarily by the mile. Their rate per mile can vary greatly from employer to employer and may even depend on the type of cargo. Typically, earnings increase with mileage driven, seniority, and the size and type of truck driven. Most driver-sales workers receive a commission based on their sales in addition to an hourly wage. Self-employed truck drivers are primarily engaged in long-distance hauling. After deducting their living expenses and the costs associated with operating their trucks, earnings of $20,000 to $25,000 a year are common. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ ilcis/info.exe?occ&614500&fr). Recent increases and continued high prices of fuel are impacting the operating costs for truck and bus drivers and/or the companies that employ them.

Overall, community college system truck and bus driver graduates were quite satisfied with their major programs (M = 4.43). Across the board, truck and bus driver graduates rated every component of their program as above average compared to graduates from all program areas who were surveyed this year. Course content (M = 4.57), lecture/lab experience (M = 4.46), and labor market information (M = 4.45) were rated highly.

Likewise, college services were rated highly by commercial driver graduates (M = 4.57). Every service was rated above average by truck and bus driver graduates. Library materials (M = 4.73), academic advising (M = 4.67), and counseling (M = 4.63) were particularly well received.

Figure 11 contains comparative information for truck and bus driver training program graduates from fiscal year 1999 and fiscal year 1994. Outcomes were positive in both years with slightly better outcomes for the earlier group. Results should be tempered by the fact that there were only a dozen respondents to the survey in fiscal year 1994. All fiscal year 1994 graduates were employed compared to an 87. 2 percent employment rate for fiscal year 1999 completers. No fiscal year 1994 graduates were unemployed versus 10 graduates from fiscal year 1999 being unemployed. More of the recent graduates were working in-district/closer to home.

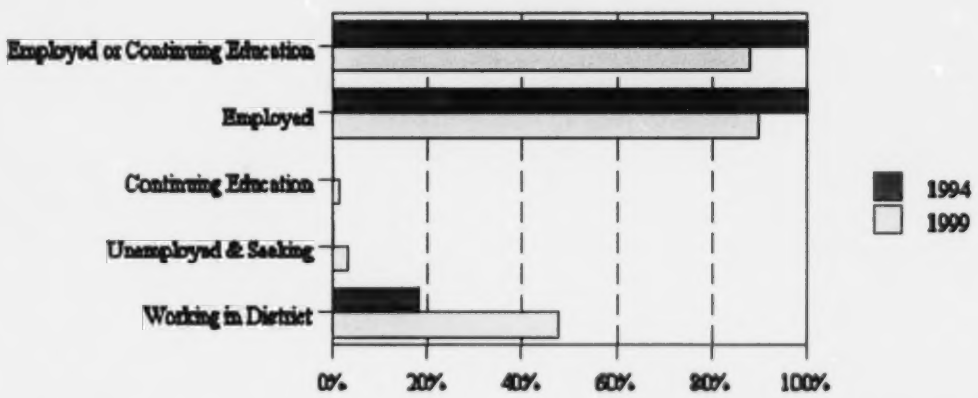

Figure 11. Truck/Bus/Other Commercial Vehicle Operator Graduates: FY 1994 & 1999

Employment of industrial machinery repairers is projected to grow more slowly than the average for all occupations through 2008. Nevertheless applicants with broad skills in machine repair should have favorable job prospects. (*Horizons*, 2001)

Industrial Equipment Maintenance and Repairers. Industrial machinery repairers are called in by production workers when their machines have problems. Industrial machinery mechanics or maintenance machinists maintain and repair machinery in a plant or factory. They often perform preventive maintenance to minimize production delays, maximize product quality, and avoid operator injury.

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Maintenance mechanics must be able to detect and diagnose minor problems and correct them before they become major ones. For example, after hearing a vibration from a machine, the mechanic must decide whether it is due to worn belts, weak motor bearings, or some other problem. Computerized maintenance, vibration analysis techniques, and self-diagnostic systems are making this task easier. Self-diagnostic features on new industrial machinery can determine the cause of a malfunction and, in some cases, alert the mechanic to potential trouble spots before symptoms develop. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe? occ&245400&fr)

Industrial machinery repairers work in a wide variety of plants and are employed in every part of the country. Employment is concentrated in heavily industrialized areas. Nationwide, industrial machinery repairers held about 535,000 jobs in 1998. Approximately seven out of every ten were employed in manufacturing industries, primarily food processing, textile mill products, chemicals, fabricated metal products, and primary metals. Others worked for government agencies, public utilities, mining companies, and other establishments in which industrial machinery is used. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe? occ&245400&fr)

As more firms introduce automated production equipment, industrial machinery mechanics will be needed to ensure these machines are properly maintained and consistently in operation. However, many new machines are capable of self-diagnosis, increasing their reliability and, thus, reducing the need for repairers. Hence, most job openings will stem from the need to replace repairers who transfer to other occupations or leave the labor force. There is a growing need for industrial machinery repairers to possess electronic and computer skills to repair the increasingly sophisticated equipment.

Unlike many other manufacturing occupations, industrial machinery repairers are not usually affected by seasonal production changes. During slow periods when some plant workers are laid off, repairers often are retained to do major overhaul jobs. Although these workers may face layoff or a reduced workweek when economic conditions are particularly severe, they usually are less affected than other workers because machines have to be maintained regardless of production level. (Occupational Outlook Handbook 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe? occ&245400&fr)

The response rate for industrial equipment maintenance and repair program graduates was 60.7 percent with 54 of 89 graduates responding. Thirteen colleges reported outcomes for their industrial equipment repair graduates. Richard J. Daley College, John A. Logan College, and Olney Central College were among the colleges with the larger programs in this area. Ninety-eight percent of the industrial equipment repairers were either working, going to school, or both. Among those graduates who reported on their employment and participation in further education: 83.7 percent were working exclusively; 8.2 percent were only going to school (N = 4); and 8.2 percent were engaged in both activities. All eight individuals who were pursuing additional education were studying in a related field. Four additional graduates had also sought further training since graduation, but were not enrolled when surveyed.

Nine out of ten industrial equipment repair graduates were working. The unemployment rate was 1.9 percent (N = 1) and 7.5 percent were not actively seeking employment (N = 4). Among working

graduates 95.8 percent were in full-time positions. Among working graduates just 70.8 percent were employed in the field. Those working in a related job were about as satisfied (M = 4.06) as most other graduates working in a position related to the program.

Individuals working outside the field of industrial equipment repair were (M = 3.21) in the neither satisfied nor dissatisfied range and slightly less positive than the average for all individuals working outside the field who answered the survey. Reasons cited by the 14 graduates who indicated that they were working in an unrelated job included could not find job in the field (N = 6); found better paying job in another field (N = 4); other/unknown (N = 2); and temporary job (N =1).

Community college industrial equipment repair graduates working in full-time positions earned $13.48/hour or an estimated $28,038 annually. Insufficient earnings data are available for part-time workers. According to the *Occupational Outlook Handbook*, 2000, median hourly earnings of industrial machinery repairers were $15.31 in 1998. The middle 50 percent earned between $12.20 and $19.02. The lowest 10 percent earned less than $10.11, and the highest 10 percent earned more than $22.97. Earnings vary by industry and geographic region. Median hourly earnings in the industries employing the largest numbers of industrial machinery repairers in 1997 include motor vehicles and equipment — $19.80; metal forgings and stampings — $17.70; blast furnace and basic steel products — $17.20; electronic components and accessories — $15.90; machinery equipment and supplies — $14.30; other miscellaneous plastics products — $14.10; preserved fruits and vegetables — $14.00; hospitals — $12.90; and meat products — $12.00. (*Occupational Outlook Handbook*, 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&245400&fr). Earnings for Illinois community college graduates were lower than the national average (approximately $3,800 on an annual basis), but still within the middle 50 percent earned by all workers.

Just over one-half of the industrial equipment repair completers were employed in the district where they received their training. Eighteen were working elsewhere in the state, and four were working in another state. Three-quarters of the graduates obtained their latest positions either while in training or after they completed their programs. One-quarter had their current positions when they entered the program.

Graduates from industrial equipment repair programs were generally satisfied with the programs that they completed (M = 3.95). The highest rated components were course content (M = 4.24) and lab/lecture experience (M = 4.20). In keeping with the relatively high incidence of graduates working outside their specialty, labor market information (M = 3.47) was rated lowest.

Industrial equipment repairers were slightly more satisfied with college services (M = 4.25). Satisfaction ratings were relatively consistent across services with academic advisement (M = 4.47), counseling (M = 4.38), and financial aid (M = 4.36) slightly higher than the others.

Figure 12 contains information about fiscal year 1999 and fiscal year 1994 industrial equipment repair graduates, which show slightly more positive results for more recent graduates. The rate of employment was higher for more recent graduates and employment and/or continuing education were both slightly higher for fiscal year 1999 graduates. In-district employment was higher for fiscal year 1994 graduates. Unemployment was low in both years as one graduate was unemployed in fiscal year 1999, and two were unemployed in fiscal year 1994.

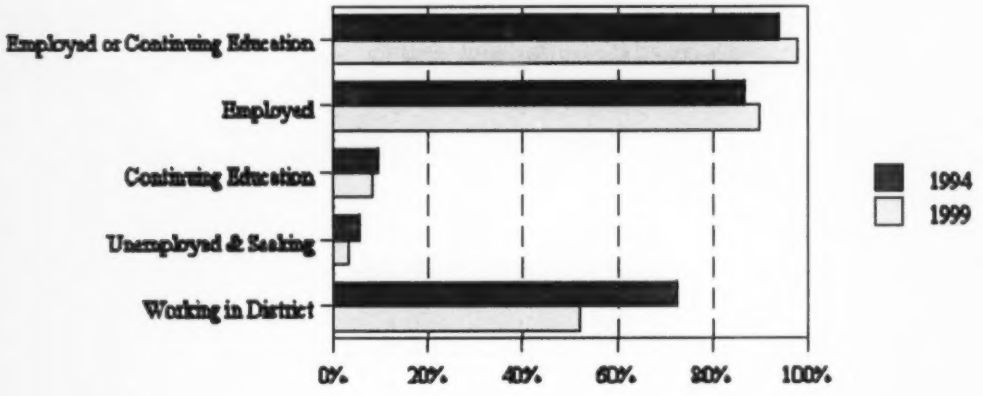

Figure 12. Industrial Equipment Maintenance & Repair Graduates: FY 1994 & 1999

According to the Illinois Department of Employment Security, the short-term forecast for industrial manufacturing technicians is very unfavorable. (*Horizons*, 2001).

Industrial/Manufacturing Technology/Technician

Industrial/manufacturing technicians assist engineers in problem-solving by using math, science, and engineering principles. They enable manufacturers to manage human resources and equipment to produce goods and services more efficiently. Technicians help increase productivity by refining work processes and furnishing detailed descriptions of tasks. They perform their work in scientific labs and manufacturing plants and may work in specialized fields such as plastics or metallurgy. In Illinois there are approximately 1,120 persons employed in this very small occupation. Approximate regional employment is as follows: Northeastern Illinois 720; Northwestern Illinois 290; East Central Illinois 30; West Central Illinois 20; Southwestern Illinois 50; and Southeastern Illinois 10. (*Horizons*, 2001, www.ioicc.state.il.us/scripts/ilcis/info.exe?prog&253000&fr and www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&245400&fr).

Industrial engineering technicians can be promoted to advanced positions such as production supervisors, plant-layout engineers, quality control managers, and chief industrial engineers. Additional education will enhance advancement opportunities.

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In Illinois, employment of industrial engineering technicians is expected to grow slower than the average for all occupations through the year 2006. Most job openings will arise as experienced people leave the work force. Competition for job openings may be keen. Individuals with a two-year degree in engineering technology and work-related experience will have the best opportunities. According to the Illinois Department of Employment Security, the short-term forecast for "industrial engineering technicians" through the year 2000 is very unfavorable. (*Horizons*, 2001, www.ioicc.state.il.us/scripts/ilcis/info.exe?prog&253000&fr and www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&245400&fr)

This is a small specialty program in the community college system. Thirty of the 50 industrial/ manufacturing graduates responded to the survey yielding a response rate of 60.0 percent. There were industrial manufacturing graduates from 16 colleges in fiscal year 1999. Danville Area Community College, Wabash Valley College, Sauk Valley Community College, Black Hawk College, and Rock Valley College were among the programs with a few respondents. Ninety-seven percent of the graduates were either working (N = 21), pursuing additional education (N = 1), or both (N = 7). Forty-two percent of those enrolled in further education were studying in a related field. Three out of the seven graduates enrolled in additional training were studying in a related field. One individual did not provide information about the relationship between their current studies to the community college program that they completed.

Ninety-three percent of all industrial/manufacturing technician graduates were working. One was unemployed and one was not actively seeking employment. Eighty-four percent were working in a related position. The five graduates working outside the field provided the following reasons: preferred another field (N = 1), worked previously in the field but changed (N = 1), in a temporary position (N = 1), took another job to get preferred work hours (N = 1), and other (N = 1).

Proportionately, more industrial/manufacturing technician graduates had their most recent position prior to program enrollment (44.4 percent) than most other programs (21.6 percent). These graduates may be using this training to position themselves for career advancement with the same employer. Eight out of ten graduates were working in the community college district where they were trained.

Salaries for industrial/manufacturing technician graduates from the community college system employed full-time were $16.16 per hour or about $33,613 a year. The three part-time workers earned $9.83/hour. The 1998 Occupational Wage Survey for Illinois reports average wages for industrial engineering technicians range from $31,616 - $47,507/year, depending on the area of the state. Nationally, in 1998, engineering technicians earned an average salary of $33,176/year, according to the Bureau of Labor Statistics. According to a survey conducted by the National Association of Colleges and Employers, beginning salary offers for individuals holding degrees in industrial technology were around $33,629/year in 1998. Salaries among community college graduates in full-time positions were slightly above average for the field.

Selected outcomes for completers from industrial/manufacturing technician programs in fiscal year 1999 and fiscal year 1994 appear in Figure 13. Outcomes are strong across both years. Graduates in fiscal year

1994 exhibited slightly higher employment outcomes, while more recent graduates were slightly more likely to remain in the district for post-program employment.

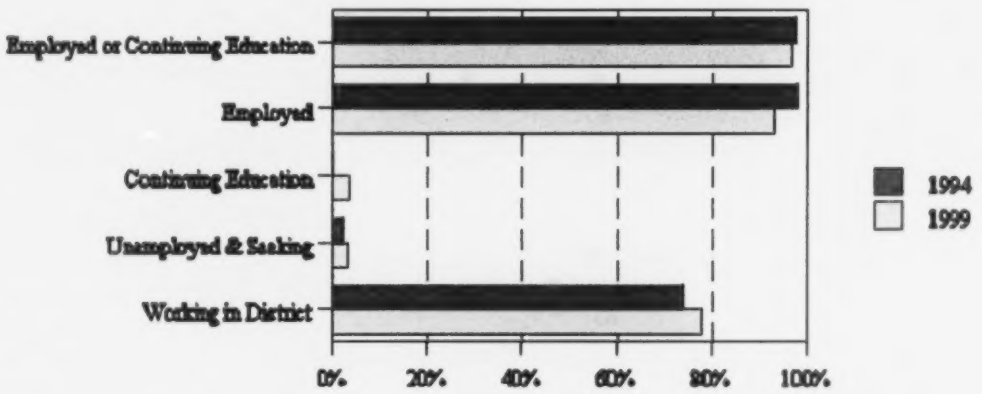

Figure 13. Industrial/Manufacturing Technology/Technician Graduates: FY 1994 & 1999

The number of human service workers and assistants is projected to grow much faster than the average for all occupations through 2008 ranking as one of the most rapidly growing occupations. (*Occupational Outlook Handbook*, 2000)

Mental Health Services. Individuals involved in mental health services assist in the counseling process and work with individuals and groups to promote mental health. They help individuals deal with a variety of issues including substance abuse; suicide; stress management; problems with self-esteem; issues associated with aging; job and career concerns; educational decisions; issues of mental and emotional health; and family, parenting, and marital problems. Individual involved in mental health service delivery work closely with other mental health specialists, including psychiatrists, psychologists, clinical social workers, psychiatric nurses, and school counselors. (*Horizons*, 2001, http://www.ioicc.state.il.us /scripts/ilcis/info.exe?occ&817200&fr)

Community colleges offer mental health service programs in three areas: Alcohol/Drug Abuse Counseling (CIP 511501), Psychiatric/Mental Health Services Technician (511502) and Developmental Disabilities/Habilitation Aide (511504). Due to the low number of graduates for the programs of Psychiatric/Mental Health Services Technician and Developmental Disabilities/ Habilitation Aide, only Alcohol/Drug Abuse Counseling will be discussed in the following section.

Alcohol/Drug Abuse Counseling. Human service workers and assistants is a generic term for people with various job titles, including alcohol or drug abuse counselor, social service assistant, case management aide, social work assistant, community support worker, mental health aide, community outreach worker, life skills counselor, and gerontology aide. They typically work under the direction of professionals from

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a variety of fields, such as nursing, psychiatry, psychology, rehabilitative or physical therapy, or social work. The amount of responsibility and supervision they are given varies a great deal. Some have little direct supervision; others work under close direction. *Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ& 841400&fr)

Opportunities for human service workers and assistants are projected as excellent, particularly for applicants with appropriate postsecondary education. The number of human service workers and assistants is projected to grow much faster than the average for all occupations between 1998 and 2008 -- ranking among the most rapidly growing occupations. The need to replace workers who move into new positions due to advancement, retirement, or for other reasons will create many additional job opportunities. This occupation, however, is not attractive to everyone. It can be draining emotionally and the pay is relatively low. Qualified applicants should have little difficulty finding employment. (*Occupational Outlook Handbook*, 2000, http://www.ioicc.state.il.us/scripts/ ilcis/info.exe?occ&841400&fr)

Employers are increasingly offering employee assistance programs that provide mental health and alcohol and drug abuse services. A growing number of people are expected to use these services as the elderly population grows and as society focuses on ways of developing mental well-being, such as controlling stress associated with job and family responsibilities. (*Occupational Outlook Handbook*, 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&817200&fr)

There were 108 alcohol and drug abuse counseling graduates who responded to the survey, for a response rate of 56 percent. Eleven community colleges reported responses from graduates with Harold Washington College as the dominant program (N = 55). Of the responding graduates, 92.5 percent were employed, or pursuing additional education or both. Only 65.3 percent were employed and not pursuing additional education. Slightly more than 8 percent were not employed, but pursuing additional education. More than one-quarter of the graduates were employed and pursuing additional education. The unemployment rate of 5.6 percent was slightly over the average for all community college graduates (4.3 percent).

Eight out of ten alcohol and drug counseling graduates was working in the field. Counseling completers employed in a related position were very satisfied with their employment ($\underline{M}$ = 4.31 on a 5.00 scale). The 19 graduates working outside of the counseling field gave the following reasons: other/unknown (N = 8), preferred to work in another field (N = 4), working a temporary job (N = 3), found higher pay in another field (N = 2), took another job to get preferred hours (N = 1), and health problems prevented working in the field (N = 1).

At one-third, a relatively high percentage of the counseling graduates acquired their position prior to program entrance. Conversely, a relatively low percentage began employment after completing their program (38.2 percent). Twenty-eight percent of graduates found employment while enrolled in the program. Three-quarters of these graduates found jobs within the community college district where they had received their training. Only 21.3 percent of graduates were working out-of-district but in Illinois, while 4.5 percent were working out of state.

Almost 93 percent of working counseling graduates were employed full-time. These full-time graduates earned $15.57/hour ($32,386/year), well above the average ($12.72/hour) for all full-time working graduates in the study. Counseling graduates employed part-time earned $10.16/hour. Full-time graduates earned more than three times the minimum wage, while part-time workers earned almost twice the minimum wage. Median annual earnings of human service workers and assistants were $21,360 in 1998. The middle 50 percent earned between $16,620 and $27,070. The top 10 percent earned more than $33,840, while the lowest 10 percent earned less than $13,540. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&841400&fr). The average yearly salary of $32,385.60 for alcohol/drug abuse counselors graduating from Illinois community colleges in 1999 compares very favorably with national norms. It should be noted, however, that the national figures presented here on salary also include those of other human service occupations (i.e., mental health aides), which may have significantly lower earnings.

Counseling graduates were fairly satisfied with the components in their major (M = 4.38). Their ratings were slightly above the overall average for each of the individual components, except for labor market employment information (M = 3.89), which was slightly below average. Similarly, these graduates scored below the average for most program services, although they were satisfied with them (M = 4.18). One service that received a particularly low rating was that of financial aid (M = 3.83).

When comparing mental health service graduates from 1999 with those from 1994 (Figure 14) the results mostly favor the more recent graduates. A greater percentage of the 1999 graduates were employed, continuing with their education or both (92.1 percent for 1999 versus 90.1 percent for 1994). Graduates from 1999 were more likely to be employed than those from 1994 (84.5 percent for 1999 versus 81.9 percent for 1994). Recent graduates had a higher percentage of those working in the district where they had received their training (71.6 percent for 1999 versus 46.6 percent for 1994). Earlier graduates were better off than 1999 graduates in the area of unemployment. The unemployment rate rose from 4.3 percent in 1994 to 6.0 percent in 1999 (N = 6).

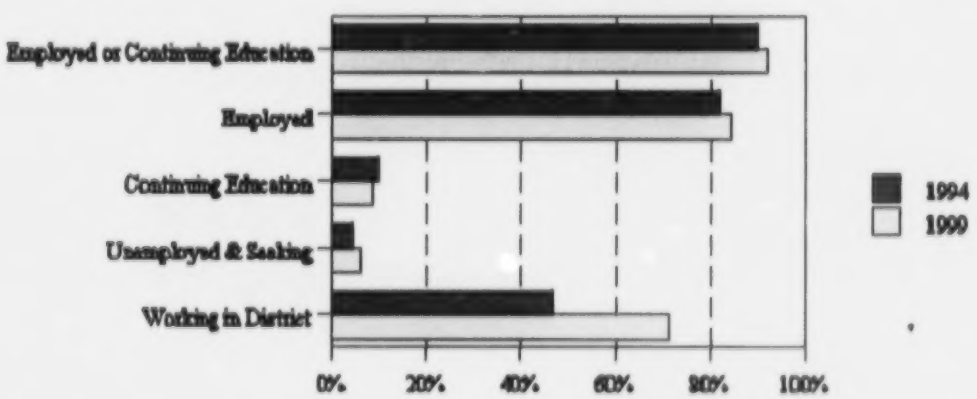

Figure 14. Mental Health Services Graduates: FY 1994 & 1999

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> Employment of social workers is expected to increase much faster than the average or all occupations through 2008. Employment of individuals who support their activities should also be favorable. (*Horizons*, 2001)

Social Work. Social workers assist individuals and groups in solving personal and social problems. Community colleges offer associate degree programs in the social or human services that prepare students to assist professionals within a social service agency. In addition, most community colleges offer the first two years of bachelor's degree requirements that can be transferred to a four-year program in social work or human services. Community college graduates in the field often provide assistance with the following types of tasks: interviewing clients to identify problems; counseling clients; developing plans to meet the client's needs; and assisting in the determination of eligibility for assistance, funds, and services. The level of supervision under which graduates from the community college system operate varies. (*Horizons,* 2001, http://www.ioicc. state.il.us/scripts/ilcis/info.exe?occ&841700&fr)

Community college graduates assist social workers in the completion of their duties or work in other roles at social service agencies. Social workers are licensed by the Illinois Department of Professional Regulation. Licensure as a clinical social worker requires a master's degree in social work and 3,000 hours of clinical experience; or a doctoral degree in social work with 2,000 hours of clinical experience. According to the Illinois Department of Employment Security, the short-term forecast for social workers through the year 2000 is very favorable. Social work is one of the 50 fastest growing occupations in the state. Although many people complete training programs each year in the state that qualifies them to practice social work, opportunities are best for applicants with a master's degree. *(Horizons,* 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ& 841700&fr).

The response rate was 55.2 percent as 64 social work graduates responded to the survey. Ninety-four percent of graduates were either employed, pursuing additional education, or both. Almost one-third of the graduates were both employed and enrolled in further education. Among those who were both working and pursuing additional education, seven out of ten were studying in a related field. Three social worker program completers were unemployed (4.8 percent).

Nearly 75 percent of the employed social work graduates were working in a related field. Graduates employed in positions related to their training were satisfied with their jobs ($\underline{M}$ = 4.10 on a 5.00 point scale). The 14 individuals working outside the field cited the following reasons: could not find job in field of preparation (N = 5), preferred to work in another field (N = 3), found better pay in another field (N = 2), temporary position (N = 2), and other/unknown (N = 2).

Approximately 71 percent of working graduates were employed in full-time positions. The average wage for full-time social workers who graduated from community colleges was $9.79 per hour or approximately $20,363 annually. Social workers employed part-time earned $8.37 per hour. According to the National Association of Colleges and Employers, social workers with a bachelor's degree received average salary offers of $22,321 per year in 1998. The national average for social workers was around $30,108 annually, as reported in a 1998 Bureau of Labor Statistics survey. In Illinois, average salaries ranged between

$21,860-$37,310 per year, according to the 1998 Occupational Wage Survey. Social workers employed by the State of Illinois in 1996 earned between $25,836 - $48,492 per year, depending on experience, training, and level of responsibility. Nationally, median annual earnings of social workers were $30,590 in 1998. The middle 50 percent earned between $24,160 and $39,240. The lowest 10 percent earned less than $19,250, and the top 10 percent earned more than $49,080. As these figures are reviewed, one must remember that these comparative data are for individuals with bachelors degrees. Earnings for graduates from community college social work programs were generally lower than those with more training. Social work graduates also earned less than average among all community college graduates who participated in the survey this year. (*Horizons,* 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&841700&fr.) Earnings of community college system graduates from social work programs, while somewhat low, were within reason for this field.

Sixty-nine percent of social work graduates located their current positions either while enrolled or after completing their program. Nearly 82 percent of the graduates from this program remained in the district where they received their training to find employment. Approximately 16 percent were working outside of the district they were trained, but still in Illinois. Less than 2 percent were working outside of Illinois.

Overall, respondents were satisfied with the components in their major ($\underline{M}$ = 4.37). All components were rated at or above the state average. Course content ($\underline{M}$ = 4.49), lecture/lab ($\underline{M}$ = 4.65), and equipment/facilities ($\underline{M}$ = 4.48) were all rated as very satisfactory. Although still in the satisfied range, labor market/employment information was rated the lowest ($\underline{M}$ = 3.95).

Overall, social work program graduates were also satisfied with college services ($\underline{M}$ = 4.12). Highly rated services included library/audio visual ($\underline{M}$ = 4.42) and financial aid ($\underline{M}$ = 4.25). Career planning was rated the lowest by social work graduates ($\underline{M}$ = 3.73), but still fell within the satisfied range.

Comparisons between 1999 social work graduates and 1994 graduates show positive outcomes for graduates in both years. As illustrated in Figure 15, graduates from fiscal year 1999 demonstrated a higher rate of full-time employment corresponding with a decrease in the percentage of students exclusively pursuing further education. However, the unemployment rate and the percentage of graduates who were either employed, pursuing additional education, or both remained relatively unchanged. There was also a slight increase in the percentage of graduates who were working in the district where they received their training.

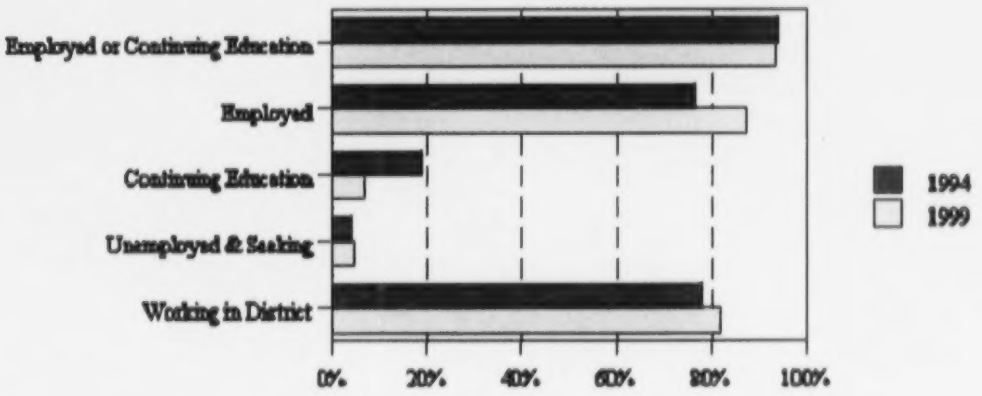

Figure 15. Social Work Graduates: FY 1994 & 1999

Due to the slight surplus of agricultural mechanics, the short-term forecast for the occupation is considered unfavorable by the Illinois Department of Employment Security. (*Horizons*, 2001)

Agricultural Mechanization. Agricultural mechanics may service everything from large farm equipment to suburban lawn tractors. Many agricultural mechanics are employed by farm implement dealers, providing preventive maintenance on planters, tillers, and spray and irrigation equipment. Agricultural mechanics can provide basic maintenance and repair using hand tools or specialize in types of equipment repair, utilizing precision equipment and high technology. (*Occupational Outlook Handbook*, 2000, http://stats.bls.gov/oco/ocos190.htm). Agricultural mechanics may be asked to travel to farms to repair equipment during planting and harvesting seasons. Approximately 2,225 people are employed in this small occupation in Illinois. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis.info.exe?occ&311500&fr)

Nationally, employment of farm equipment mechanics is expected to decline through the year 2008. Most job openings will arise from the need to replace experienced mechanics who retire. Nevertheless, job opportunities should be good for persons who have completed formal training in farm equipment repair, diesel mechanics, or a similar program. Employers of farm equipment mechanics report difficulty finding qualified candidates to fill available positions because people trained to repair farm equipment have the fundamental skills and knowledge to work as mechanics in industries outside agriculture. (*Occupational Outlook Handbook* 2000, http://www.ioicc. state.il.us/ scripts/ilcis/info.exe?occ&241100&fr)

Forty-one of the agricultural mechanization graduates responded to the survey for a response rate of 58.6 percent. Six Illinois community colleges reported responses from agricultural graduates with the most coming from Lake Land College (eleven responses) and Illinois Central College (ten responses). Nearly 93 percent of graduates were employed, pursuing additional education, or both. Almost 3 percent were

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not employed, but pursuing additional education. About 82 percent were solely employed. Nearly 16 percent were employed and pursuing additional education. One agricultural mechanic graduate was unemployed (2.4 percent). Graduates working in a related field to agriculture were satisfied with their employment (M = 4.24).

Two of the three graduates working in positions that were not related to agricultural mechanics could not find a job in the field. The third person did not furnish a reason.

Just over one-half of the graduates located their current position after graduation (N = 14). Ten began their current job while enrolled and three had the position prior to program enrollment. A large proportion found work out of the district, but in Illinois (61.1 percent). The remaining one- third, a fairly low percentage, found work in the district where they received their training.

One hundred percent of working agricultural graduates worked full-time. The hourly wage for these graduates was $10.29/hour, or about twice the minimum wage of $5.15/hour. Median hourly earnings of farm equipment mechanics in 1998 were $10.94. The middle 50 percent earned between $8.86 and $13.20. The lowest 10 percent earned less than $6.96, and the top 10 percent earned more than $16.01. Most farm equipment mechanics also have the opportunity to work overtime during the planting and harvesting seasons, which generally pays time and one-half. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&241100&fr). The hourly wage earned by agricultural graduates from Illinois community colleges in 1999 was comparable to the national norm, although it is slightly below the median reported for 1998.

Agricultural graduates were satisfied with the components of their program (M = 4.32) and services provided by their program (M = 4.28) scoring slightly above the overall average in both cases. In terms of program components, they were especially satisfied with job preparation (M = 4.46). For program services, tutoring received very high ratings (M = 4.56).

As Figure 16 illustrates, the more recent agricultural graduates were better off than the 1994 completers in only some categories. The recent graduates had a lower unemployment rate (2.4 percent versus 3.6 percent). The 1999 graduates had a slight edge on rate of exclusive employment (90.2 percent versus 89.3 percent). However, the 1994 graduates were likely to be employed, pursuing additional information or both (100 percent versus 92.7 percent). For both recent and 1994 completers, the rate of in-district employment was relatively low (36.1 percent for 1999 and 37.5 percent for 1994).

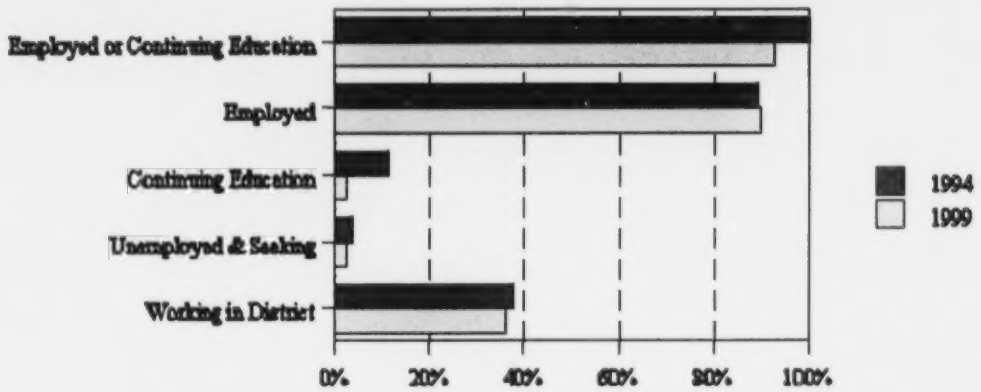

Figure 16. Agricultural Mechanization Graduates: FY 1994 & 1999

Job opportunities for carpenters are expected to be plentiful through the year 2008 due primarily to an extensive need for replacement workers. (*Horizons*, 2001)

Carpenters. Carpenters are involved in many different kinds of construction activity. They cut, fit, and assemble wood and other materials in the construction of buildings, highways, bridges, docks, industrial plants, boats, and many other structures. Carpenters' duties vary by type of employer. Builders increasingly are using specialty trade contractors who, in turn, hire carpenters who specialize in just one or two activities. Some of these activities are setting forms for concrete construction; erecting scaffolding; or doing finishing work, such as installing interior and exterior trim. A carpenter directly employed by a general building contractor often must perform a variety of tasks associated with new construction, such as framing walls and partitions, putting in doors and windows, building stairs, laying hardwood floors, and hanging kitchen cabinets. (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&425400&fr)

Thousands of job openings will become available each year as carpenters transfer to other occupations or leave the labor force. The total number of job openings for carpenters is usually greater than for other craft occupations, because the carpentry occupation is large and the turnover rate is high. There are no strict training requirements for entry, so many people with limited skills take jobs as carpenters but eventually leave the occupation because they dislike the work or cannot find steady employment. Employment growth of carpenters is expected to be somewhat slower than the average for all occupations. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe? occ&425400&fr). In Illinois, a strong economy and the Illinois First building initiative are contributing to growth in the construction industry.

This is a very large occupation with about 62,840 people employed in Illinois. The majority are employed in population centers where most construction activity takes place. Carpenters are located in all areas of the state. Peak employment occurs in the summer. Approximate regional employment is: Northeastern Illinois — 40,075; Northwestern Illinois — 8,170; East Central Illinois— 4,980; West Central Illinois

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— 3,470; Southwestern Illinois — 3,440; and Southeastern Illinois — 2,705. (*Horizons*, 2001, http://www. ioicc.state.il.us/scripts/ilcis/info.exe?occ&425400&fr)

Forty-seven carpenter graduates from the community college system responded to the survey for a response rate of 50 percent. The two community colleges that provided information about carpenter graduates were Kennedy-King College and Southwestern Illinois College. Ninety-eight percent of these graduates were employed. None were pursuing additional education. One graduate of a carpenter training program was not employed (2.1 percent).

Nearly 94 percent of working carpenter graduates were employed in a related field – well above the average for all occupations of 80.7 percent. Of the three individuals not working in a related field, two indicated that they could not find work related to carpentry and one preferred to work in another field. One of the highest job satisfaction ratings for those in related positions was found among carpenter graduates ($\underline{M}$ = 4.63 on a 5.00 scale).

A high proportion of these graduates already had positions upon entering the program (47.8 percent). Only 17.4 percent acquired their position during program enrollment. A relatively low percentage began their employment after their training (34.8 percent). A fairly high percentage of graduates were employed in their college's district (73.3 percent). A relatively low percentage found work out of the district, but in state (20 percent). Nearly 7 percent found work out of state.

Carpenter program completers who reported wage data were all employed full-time. The hourly wage for these graduates was second highest among all graduate occupations at $22.89/hour. Carpenter graduates made nearly four and-one-half times the minimum wage of $5.15/hour. The entire carpentry industry can be seasonal in nature with periods of time without work either due to inclement weather or a slow economy. Nationally, carpenters earned an average hourly rate around $12.25/hour, according to a 1998 Bureau of Labor Statistics survey. Depending on the specialty, apprentices start between 50-65 percent of the rate paid to experienced workers. Prevailing rates for journey-level carpenters in Illinois ranged from $19.35 - $26.07/hour in 1998. Nonunion wages for carpenters in Illinois ranged from $7.50 - $16.68/hour in 1996. Reported regional union wages are: Northeastern Illinois — $20.99-$26.07/hour; Northwestern Illinois — $19.35-$21.74/hour; East Central Illinois — $19.47-$24.60/hour; West Central Illinois — $19.66-$22.01/hour; Southwestern Illinois — $22.01/hour; Southeastern Illinois — $19.63- $22.19/hour (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&425400&fr)

Median national hourly earnings in the industries employing the largest numbers of carpenters in 1997 are shown as follows: nonresidential building construction — $15.10, carpentry and floor work — $13.60, residential building construction — $12.40; and personnel supply services — $11.40 (*Occupational Outlook Handbook* 2000, http://www.ioicc.state.il.us/scripts/ilcis/ info.exe?occ&425400&fr). The earnings of carpenter graduates from Illinois community colleges in 1999 tended to be on the high side for workers in this field both statewide and nationally. Carpenter graduates from Illinois community colleges earned $22.89/hour, which is well within the range of $19.35-$26.07/hour in 1998 for Illinois. Carpenter graduates from Illinois community colleges earned more than twice that of many carpenters nationally.

Carpenter graduates were very satisfied with their college's program components ($\underline{M}$ = 4.59). Especially high satisfaction ratings were given in the areas of course content ($\underline{M}$ = 4.62), equipment facilities materials

(M = 4.60), preparation for further education (M = 4.73) and labor market employment information (M = 4.58). Satisfaction ratings for program services were somewhat lower than for program components; however, in comparison to those of other occupations they were still fairly high. The overall rating for carpenter graduates for program services was 4.30 (average rating for all graduates was 4.22). Counseling (M = 3.86) and financial aid received a relatively low rating (M = 4.00). A high rating of satisfaction was given to transfer planning (M = 4.63).

Since only two survey responses were furnished in 1994, comparisons between the 1999 and 1994 graduates have not been made.

Sign language interpreter is a small specialized field. Employment opportunities will be best in medium to large cities and for those with appropriate professional certifications. (*Registry of Interpreters for the Deaf*, 1998)

Sign Language Interpreter. Sign language interpreters work with individuals who are deaf and have a severe hearing impairment. They can either teach signing skills or provide interpretation services to facilitate communication between the deaf community and those who can hear. Interpreters for the deaf who work for schools and colleges often supplement their nine-month salary with free-lance interpreting and sign language instruction. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&218400&fr)

According to the Registry of Interpreters for the Deaf (1998), there is a need for qualified interpreters with credentials. Many new interpreter training program graduates get jobs in school systems where they receive a full-time salary and benefits. Others work with interpreter referral agencies as freelance interpreters. This offers them flexibility in hours and job settings, but may not provide 40 hours per week in assignments. In general, the demand for interpreters is best in medium to large cities. Individuals who are more mobile will have better opportunities to find interpreting jobs. Credentials are obtained by taking and passing a skills assessment. The National Registry of Interpreters for the Deaf (RID) provides testing for national certification. Assessments by the National Association for the Deaf (NAD) and other state agencies may also be accepted by employers. Sign language is no more universal than spoken languages. American Sign Language is the language used by a majority of people in the deaf community in the United States and most of Canada (LSQ is used in Quebec). Certain Caribbean countries and areas of Mexico also use ASL. England uses British Sign Language and Australia uses Australian Sign Language. (*Registry of Interpreters for the Deaf*, 1998, http://www.rid.org/terp.html). Part-time employment can be common among sign language interpreters. It can take an extended period of time for an individual to become fluent in sign language much like fluency in any "foreign" language is developed over time.

Thirty-five sign language interpreter graduates from the community college system responded to the survey yielding a response rate of 63.6 percent. Four colleges provided data on their fiscal year 1999 sign language interpreter graduates. Nine out of ten graduates were either employed, pursuing additional education, or both. Only 60 percent of respondents were working exclusively. Ten percent of sign language interpreter graduates were pursuing additional education exclusively, more than twice the state average of 4.7 percent. Thirty percent of graduates were both employed and enrolled in further education.

Among those who were both working and pursuing additional education, eight out of ten were studying in a related field. One sign language interpreter graduate was unemployed (2.9 percent).

Approximately 59 percent of the employed sign language interpreter graduates were working in a related field. Individuals employed in positions related to their training were satisfied with their jobs ($\underline{M}$ = 4.06 on a 5.00 point scale). The remaining12 individuals cited the following reasons for working outside the field: other/unknown (N = 4), temporary position (N = 3), didn't complete program or pass licensing test to be eligible (N = 3), preferred to work in another field (N = 1), and could not find work in field (N = 1).

Seventy-eight percent of working sign language interpreter graduates located their current position either while enrolled in the program or after completion. Approximately 30 percent of graduates worked in the community college district where they received their training. The other 70 percent of graduates worked outside of the district where they were trained, but remained in Illinois. No graduates left Illinois to find employment.

Nearly 66 percent of working graduates were employed in full-time positions. The average hourly wage for full-time sign language interpreter graduates was $12.09 or the equivalent of $25,147 annually, more than twice the minimum wage ($5.15/hour). Sign language interpreter graduates from Illinois community colleges employed part-time earned an average of $15.74 per hour. According to the Registry of Interpreters, salaries will vary depending on many factors, including (1) geographical area (rural areas tend to pay less than urban areas), (2) education, (3) amount of experience, and (4) credentials. Some interpreters work freelance and earn anywhere from $12 - $40/hour, but they may not be able to schedule a full 40 hours per week. Freelancers do not get employee benefits. Other interpreters work for an agency, business, government organization, or school system. Depending on many factors, these staff employees may earn anywhere between $15,000-$30,000+ per year. (*Registry of Interpreters for the Deaf*, 1998, http://www.rid.org/ terp.html) Earnings for graduates from the Illinois Community College System are comparable to available national data.

Overall, sign language interpreter respondents were satisfied with the components in their major ($\underline{M}$ = 4.05). Course content ($\underline{M}$ = 4.40) and lecture/lab ($\underline{M}$ = 4.17) were rated the highest. Graduates rated preparation for further education the lowest ($\underline{M}$ = 3.70), but this still fell within the satisfied range.

Although still in the satisfied range, sing language interpreter graduates rated college services ($\underline{M}$ = 3.87) a little lower than they rated the components of their major. Graduates were very satisfied with financial aid services ($\underline{M}$ = 4.67). Transfer planning ($\underline{M}$ = 3.17) was rated the lowest by sign language interpreter respondents.

Comparisons between 1999 sign language interpreter graduates with 1994 completers show positive outcomes for both years with a slight decrease in some areas for more recent graduates. As illustrated in Figure 17, graduates from fiscal year 1999 had a slight decrease in the rates of employment and/or continuing education as well as employment only. One graduate was unemployed from both graduating classes. Fiscal year 1999 sign language interpreter graduates exhibited increased rates of pursuing additional education exclusively and higher percentages of employed graduates who found employment within the district where they had received their training.

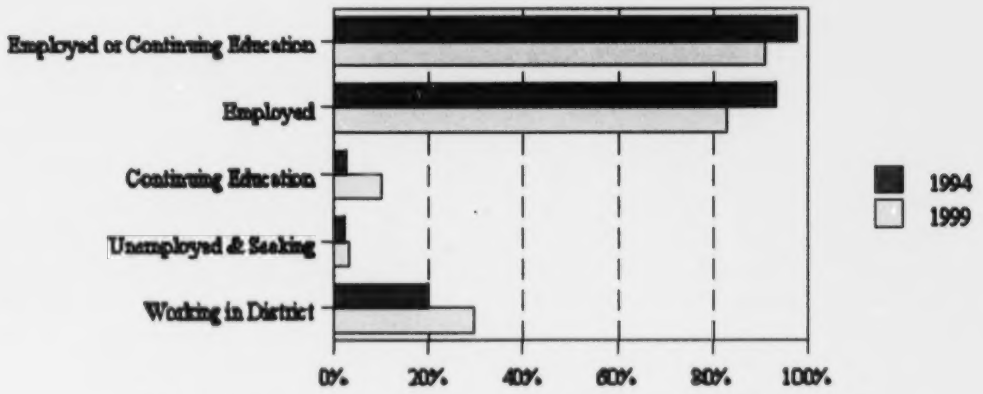

Figure 17. Sign Language Interpreter Graduates: FY 1994 &1999

> The outlook for employment of entrpreneurial managers is balanced. (*Horizons*, 2001).

Enterprise Management and Operation. These programs prepare individuals to perform development, marketing and management functions associated with owning and operating a business. Entrepreneurial managers own and operate businesses that generally employ fewer than 40 people. The business typically sells goods and services or manufactures products. An entrepreneurial manager must effectively run the day-to-day operations of the business, which often includes financial administration and customer service. Successful management of such a business relies on the manager's ability to have sufficient resources available to handle the risk of a business that often fluctuates with the local economy. In the first year of operation, four out of five small businesses fail. Thus, an entrepreneurial manager must be dedicated to the business committing personal time and funds to the endeavor. The outlook for employment of entrepreneurial managers is balanced. (*Horizons*, 2001, http://www.ioicc. state.il.us/scripts/ilcis/info.exe? occ&114200&fr)

Enterprise management is a medium-sized community college program with enrollments of 344 students in fiscal year 1999. Many students enroll to gain specific skills. Fifteen enterprise management graduates responded to the survey for a response rate of 55.6 percent. With such small numbers, relatively small numerical changes yield large percentage differences. Nine community colleges had graduates in fiscal year 1999, and seven of them received responses to the survey. Southwestern Illinois College and Prairie State College were responsible for most graduates.

All responding graduates were employed, going to school, or both. The one person who was working and attending college was studying in a related field. Nine out of ten were exclusively working. Thirteen were working full-time, one was working part-time, and one was unemployed while actively pursuing additional education in another field.

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Three-quarters of the working graduates were employed in the field. The three working in another field chose to work elsewhere. Eight out of ten obtained their current jobs either while enrolled or after graduating. Most graduates were working in the geographic area where they received their training with the following distribution of employment by location: in-district (N = 9), out-of-district but in Illinois (N = 2), and out-of-state (N = 2).

Only full-time workers reported earnings data. Enterprise management graduates earned $14.83/hour or approximately $30,846 a year. This level of earnings compares favorably with other community college graduates who participated in the current study. Comparative information from the field is difficult to obtain as earnings vary widely depending on the type of business and its geographic location. Operating a small business is a high-risk undertaking. Actual earnings may be very low the first year; businesses may even lose money. Those starting a business should have enough money to cover operating expenses and their living expenses for at least the first year. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&114200&fr and http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&142400&fr)

Figure 18 contains information about Enterprise Management and Operation graduates from fiscal year 1999 and fiscal year 1994. Results were favorable in both years with more recent graduates exhibiting somewhat better outcomes.

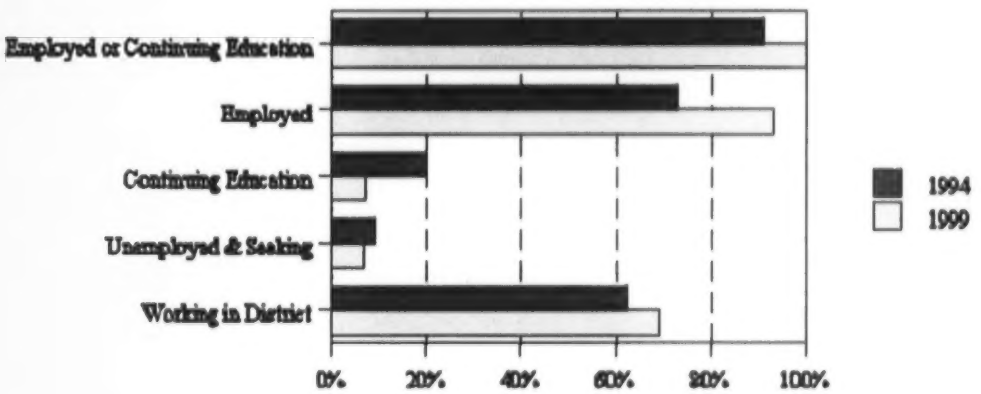

Figure 18. Enterprise Management & Operation Graduates: FY 1994 & 1999

The short-term forecast for hospitality managers is very favorable. (*Horizons*, 2001)

Hotel/Motel and Restaurant Management. Hospitality managers direct the business operations of hotels, motels, restaurants, and travel agencies. While daily tasks vary according to the size, type, and location of the business, hospitality managers often hire personnel, purchase supplies, and determine service and product fees. Hospitality managers may be responsible for publicizing special events, while managing all of the details behind the scenes. They utilize computers to keep track of clients needs,

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requests, and bills. Hospitality managers depend on customer satisfaction to ensure business profits. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&113200&fr)

According to the Illinois Department of Employment Security, the short-term forecast for hospitality managers is very favorable. Consolidation, when larger chain hotels and franchises take over independently owned hotels, will play a large role in the need for additional managers. Additional job openings will be created when experienced managers transfer to other occupations or stop working. Demand is strongest in population centers and recreational areas which attract tourists and commercial travelers. Large hotels often have their own training programs. People who complete these company programs may be asked to relocate to other states. Opportunities should be good for persons who have college degrees in hotel management. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&113100&fr)

Twenty responses to the survey were reported for a response rate of 69 percent. The small number of responses should be considered as percentages are reviewed. Seven community colleges reported responses to their surveys for this area. Ninety percent of hotel/motel graduates were employed, continuing education or both. Just over 72 percent were exclusively employed, while almost 17 percent were not employed but pursuing additional education. Three hotel/motel and restaurant graduates were unemployed (15.0 percent).

Eighty percent of the employed hotel/motel graduates were working in a related field. There were three respondents who were not in a related position. One indicated that they preferred to work in a different field, another indicated that he was in a temporary transitional job and the third did not provide a reason. The satisfaction rating for hotel/motel graduates in a related position was 4.08 – just slightly below the overall rating of 4.19 for all graduates but still in the satisfied range.

Just over 21 percent of hotel/motel graduates acquired their positions before they began their training at a community college. Almost 36 percent started during program enrollment. Nearly 43 percent began work after program completion. A relatively high proportion of hotel/motel graduates found work in the district of their community college (86.7 percent). One individual found work out-of-district but in Illinois and the other located employment out-of-state.

Approximately 87 percent of hotel/motel and restaurant graduates who were working were employed full-time. Graduates in full-time positions earned $10.57/hour or slightly over twice the minimum wage. Only two graduates in part-time positions reported earnings.

According to *Horizons*, 2001, wages in the hotel/motel business vary with size of hotel, geographical location, type of establishment, level of experience and differences in duties and responsibility. According to a 1998 National Association of Colleges and Employers survey, the average entry-level salary for hotel/restaurant management bachelors degree graduates was $25,534/year. According to a 1997 survey conducted by the American Hotel and Motel Association, average annual salaries of experienced general managers ranged from $42,100 to $83,800 depending on the size and type of establishment. Wages in the restaurant business vary greatly according to the type and size of the restaurant managed. According to a 1998 survey conducted by the National Association of Colleges and Employers, average starting salary for four-year college graduates in restaurant management was about $25,534/year. Non-college trainees

often start at lower salaries. According to the Bureau of Labor Statistics, nationally in 1998 restaurant managers average about $26,470 per year. Most managers receive an annual bonus or incentive payment based on their performance. According to the 1998 Occupational Wage Survey for Illinois, average salaries for restaurant managers is $24,350 per year. (*Horizons*, 2001 http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&113100&fr) Illinois community colleges hotel/motel and restaurant graduates earned approximately $21,986/year. Comparing these earnings with those of the state and the country, it is apparent that community college graduates in this area are experiencing lower than average pay. This is tempered somewhat by the fact that many in the comparison groups have bachelors degrees and/or are experienced workers.

Hotel/motel and restaurant graduates were very satisfied with the services that were provided by their program ($\underline{M}$ = 4.43). Services that received especially high rating were those of academic advising ($\underline{M}$ = 4.68), career planning ($\underline{M}$ = 4.50), and counseling ($\underline{M}$ = 4.69). These graduates less satisfied with program components ($\underline{M}$ = 4.25). Equipment facilities materials receive a particularly low rating ($\underline{M}$ = 4.05) relative to the average overall rating ($\underline{M}$ = 4.31).

As Figure 19 illustrates, the 1994 completers were slightly better off than the more recent graduates. There were 20 respondents from 1999 and 16 respondents from 1994. The graphic tends to magnify relatively small numerical changes because of the small number of graduates. The 1994 graduates had a higher rate of those employed, continuing education, or both (93.3 percent for 1994 versus 90.0 percent for 1999). The 1994 graduates had a greater proportion of those employed as well (81.3 percent for 1994 versus 75.0 percent for 1999). In addition, the 1994 graduates were less likely to be unemployed (three individuals for 1999 versus none for 1994). The more recent graduates who found employment were more likely to remain in the district where they received their training (86.7 percent for 1999 versus 61.5 percent for 1994).

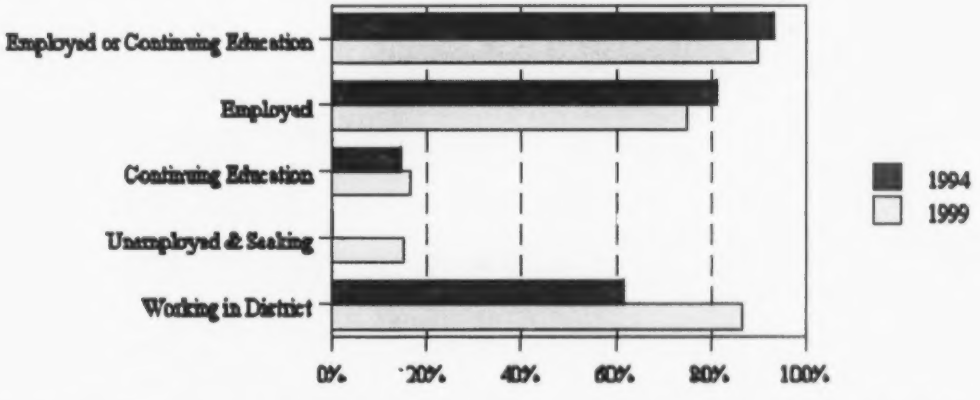

Figure 19. Hotel/Motel and Restaurant Management Graduates: FY 1994 & 1999

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Faster than average growth in the employment of personnel/human resource managers is projected in Illinois through 2006. (*Horizons*, 2001)

Human Resource Management. Personnel managers (also known as human resources managers) plan and carry out policies concerning an organization's personnel activities in order to attract and keep the best available employees. Duties include recruiting; interviewing and hiring job applicants; counseling employees; classifying jobs; planning wage and salary scales; and developing, administering, and validating tests. They may also handle labor grievances, training and safety programs, and administer retirement and employee benefit programs. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&118600&fr)

Nationally, average growth is expected. Outlook depends on management's increasing use of personnel managers to administer employee/management relations, employee training and employee salary-benefit plans. Many people are completing training programs in human resources and labor relations each year. Demand is best for experienced specialists, particularly those who have technical, industrial, or labor negotiation backgrounds. Opportunities for entry jobs at this management level are limited and competition is strong. A significant number of openings will occur because of the need to replace workers who transfer to other occupations or leave the work force. According to the Illinois Department of Employment Security, the short-term forecast for "personnel managers" is very favorable. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe? occ&118600&fr)

In Illinois, this is a medium-sized occupation with about 29,730 employees. This does not include those employed by the military. Approximate regional employment is: Northeastern Illinois — 21,400; Northwestern Illinois — 3,140; East Central Illinois — 1,685; West Central Illinois — 1,250; Southwestern Illinois — 1,225; and Southeastern Illinois — 1,030. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&118600&fr)

There were 14 responses from human resource graduates for a response rate of 70 percent. William Rainey Harper College, Carl Sandburg College, Moraine Valley Community College, Joliet Junior College, and Lewis and Clark Community College all reported on their graduates in this area. All 14 graduates were employed, pursuing further education, or both. Nine were exclusively employed, two were exclusively enrolled in additional education, and three were employed and pursuing further education. One individual was unemployed (7.1 percent).

Ten working graduates in human resources were employed in a related area. Job satisfaction ratings for the seven who were employed in a related field and indicated their level of satisfaction with their employment was only 3.14, which was the lowest rating among all occupations. There were only two individuals who did not find employment in a related field. One chose an unrelated field in order to work preferred hours while the other did not indicate a reason for working in an unrelated field.

Two human resource graduates acquired their jobs prior to entering the program. Three graduates began employment during program enrollment, and the remaining three began working in their current positions after program completion. Six of eight found employment within their college's district. Two worked out of the district, but in Illinois. No graduates were working outside of the state.

Working human resource program graduates were all employed full-time. Average hourly salary was $8.63, or just over one and two-thirds times the minimum wage of $5.15/hour. Yearly salary for a human resource graduate was $17,950. According to *Horizons*, 2001, salaries vary with employment setting and responsibilities. Human resources specialists working for the State of Illinois earned salaries ranging from $26,100-$50,520/year in 1996. The 1998 Occupational Wage Survey for Illinois reports average salaries ranging from $36,580-$49,460/year. Reported regional wages are: Northeastern Illinois —$29,890-$51,480/year; Northwestern Illinois — $23,000-$43,080/year; East Central Illinois — $21,670-$43,680/year; West Central Illinois — $24,590-$35,460/year; Southwestern Illinois — $21,010-$42,990/year, and Southeastern Illinois — $26,850-$40,000/year. In 1998, the National Association of Colleges and Employers survey reported an average starting salary of $27,151/year in human resources/labor relations for baccalaureate degree candidates. Nationally, in 1998, personnel and labor relations managers earned salaries ranging from $32,760-42,796/year, according to a Bureau of Labor Statistics survey. (*Horizons*, 2001, http://www.ioicc.state.il.us/scripts/ilcis/info.exe?occ&118600&fr). It is evident that human resource graduates from Illinois community colleges earned much less than others in the same field. The average yearly salary for human resource graduates was nearly $10,000 less than both the state and national averages.

Human resource graduates rated their college program components fairly low ($\underline{M}$ = 4.14) compared to graduates from other occupations. There was little variability in responses. Lecture/lab experience was rated slightly lower ($\underline{M}$ = 3.93) as was labor market information ($\underline{M}$ = 4.14). Overall program service ratings were also lower than those of graduates from other occupations ($\underline{M}$ = 4.00). Two services which received particularly low ratings were counseling ($\underline{M}$ = 3.33) and tutoring ($\underline{M}$ = 3.50).

Figure 20 seems to illustrate that the 1994 completers were better off than the more recent graduates to some extent. There were 14 respondents from 1999 and 16 respondents from 1994. The graphic tends to magnify relatively small numerical changes because of the small number of graduates. The 1994 graduates had a higher rate of those employed (100 percent for 1994 versus 85.7 percent for 1999). In addition, the 1994 graduates were less likely to be unemployed (one individual from 1999 versus none from 1994). The rate of those employed, continuing education or both was equal (100 percent for 1994 and 1999). The more recent graduates who found employment were more likely to remain in the district where they received their training (75 percent for 1999 versus 60 percent for 1994).

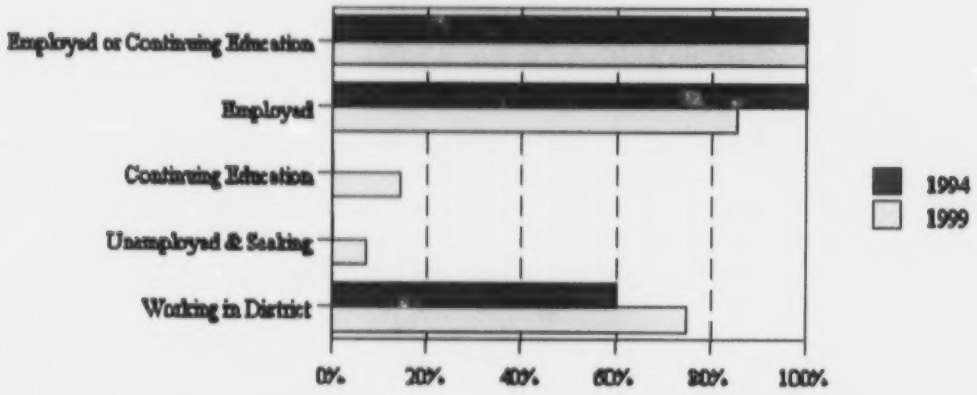

Figure 20. Human Resources Management Graduates: FY 1994 & 1999

Summary, Conclusions, and Policy Implications

The Illinois Community College System's statewide strategic plan *Promise for Illinois* was adopted by the Board at its September 2000 meeting and makes Seven Pledges to the citizens of Illinois. The Occupational Follow-up Study plays a part in delivering on at least two pledges: to address workforce development needs with flexible, responsive, and progressive programs and to emphasize quality in all programs, services, and operations. Key portions of the survey address employment status, education status, salary, employment start-up, geographic location of employment, and satisfaction with employment and components of the educational program completed. Such information has important quality control implications for colleges as they develop new program proposals and perform program review, in order to ensure that they stay in step with the changing job market and strive to provide satisfactory employment and compensation for their graduates. The uniform survey provides benchmark data and a basis for comparison for graduates of similar programs from across the community college system.

Economic conditions influence outcomes for community college graduates. According to the Illinois Department of Employment Security, Illinois' economy is in a period of stability as it continues its eighth year of expansion, marked by a steadily growing number of full-time employment opportunities. For the past two years, the state's jobless level has remained below 4.5 percent, with sustained job growth. (*IDES Press Release*, 9/12/2000, http://www.ides.state.il.us/economy /cps.pdf). Economic conditions in Illinois continued to exhibit strength in spring 2000 during the survey data collection process through the October 2000 production of the report. During spring 2000 unemployment rate in Illinois was at 4.4 percent (seasonally adjusted). (*IDES Civilian Unemployment Rates for Illinois and the U. S , January 1998 to August 2000*, 9/12/2000, http://lmi.ides.state.il.us/table1.htm,). According to Economy.com Incorporated, a leading supplier of economic information on the internet, nationwide the pool of available workers slipped below 10 million in September 2000 making for a tight labor market (9.83 million in September compared to 10.04 million in August) (Koropeckyj, 10/6/2000, http://www.dismal.com/economy/ releases/dyn_release.asp?r=usa_employ). Similarly the sustained expansion in Illinois' economy has tightened the availability of workers in the state.

Occupational programs provided by community colleges have an important role to play in providing people with the skills required to be productive members of today's workforce and to compete successfully in the workforce of the future. To achieve and sustain a competitive advantage in the marketplace Illinois needs a knowledgeable, skilled, creative and productive workforce. The Occupational Follow-up Study is one component of multifaceted systemwide accountability and program improvement initiatives which help ensure that graduates and individuals who take skills building courses at community colleges are making positive contributions to address these needs. Selected other components of the community college system's efforts to promote accountability and program improvement include the Program Approval Process, Program Review, Accountability and Results Reporting, Performance-Based Incentive System Funding, the Recognition Process, Workforce Investment Act Performance Reporting, Perkins Postsecondary Performance Measure Reporting, Adult Education Performance Funding, etc.

Graduates in fiscal year 1999 from selected Illinois community college occupational programs were surveyed in March 2000 – six to nine months after program completion. The survey response rate was 60.3 percent with 1,504 usable responses from a pool of 2,494 graduates included in the analysis. The following list contains the cross section of community college occupational programs that were included in the analysis:

Agricultural Mechanization
Teacher Assistant/Aide
Industrial/Manufacturing Technology/technician
Child Care Provider/Assistant
Social Work
Carpenter
Industrial Equipment Maintenance and Repairers
Auto/Automotive Body Repairer
Auto/Automotive Mechanic/technician
Diesel Engine Mechanic and Repairer
Aviation Systems and Avionics Maintenance Technologist/Technician
Truck, Bus and Other Commercial Vehicle Operator
Sign Language Interpreter
Medical Assistant
Occupational Therapy Assistant
Pharmacy Technician/assistant
Physical Therapy Assistant
Physician Assistant
Veterinarian Assistant/Animal Health Technician
Alcohol/Drug Abuse Counseling
Psychiatric/Mental Health Services Technician
Enterprise Management and Operation
Hotel/Motel and Restaurant Management
Human Resources Management
International Business

Three broad program areas combined to account for nearly two-thirds of the respondents: Child Care (26.3 percent), Health and Medical Diagnostic and Treatment Services (21.5 percent), and Vehicle and Mobile Equipment Mechanics and Repairers (14.5 percent). Graduates from the remaining 21 program areas combined accounted for 37.7 percent of the respondents. Overall statewide results are influenced by differences in program size and in the number of graduates responding to particular questions. As detailed in the report, ten programs were eliminated from the statewide analysis due to a low number of responses or a small number of graduates. Statewide results follow:

< 93.3 percent were employed or pursuing additional education or both. (Table B-1.)

< 88.8 percent of the occupational completers were employed. (Table B-2.)

Among working graduates,

- < 87.0 percent held full-time status in their current jobs. (Table B-2.)
- < 80.7 percent were employed in positions related to the field in which they studied at the community college. (Table B-5).
- < 78.3 percent obtained their current positions while enrolled or after graduating. (Table B-7.)
- < 93.9 percent were employed in Illinois. Of those, more than two-thirds remained in the district where they received their training. (Table B-8.)
- < The average salary was $12.36 per hour, 2.4 times the minimum wage at the time ($5.15 per hour). (Table B-9.)

< Graduates employed in full-time positions earned the equivalent of about $26,458 annually.

< The average rate of unemployment (the percent of graduates who were unemployed and seeking work) was 4.3 percent. (Table B-2).

< Nearly 23 percent of the respondents were pursuing additional education. Seventy-three percent of those enrolled in further study were taking course work in a related field (Table B-4).

< Graduates employed in positions related to their community college program were satisfied with their current positions (4.19 on a five-point scale, with 5 being very satisfied and 0 being very dissatisfied). Including nonrelated positions, job satisfaction averaged 4.08/5.00. (Table B-10.)

< On average, graduates expressed satisfaction (M=4.27/5.00) with components of their program (course content, lecture/lab experiences, equipment, facilities and materials, job preparation, preparation for further education, and labor market employment information). (Table B-11.)

< Graduates were also satisfied with college services, such as financial aid, academic advising, career planning, transfer planning, counseling, tutoring, library/audio visual, student activities) awarding an average rating of 4.22/5.00. (Table B-12.)

Graduates from similar program areas were surveyed five years ago. Generally, more recent graduates (fiscal year 1999) exhibited slightly higher satisfaction ratings. Workers in both studies reported high levels of satisfaction with their jobs ($\underline{M}$ = 4.08 for 1999 and $\underline{M}$ = 4.03 for 1994). Likewise, graduates reported high levels of satisfaction with major program components ($\underline{M}$ = 4.27 for 1999 completers and $\underline{M}$ = 4.18 for 1994 completers) and college services ($\underline{M}$ = 4.22 for 1999 and $\underline{M}$ = 4.00 for 1994).

A comparison of follow-up survey outcomes from 1994 and 1999 reveals only slight differences. A slightly larger proportion of recent graduates were employed, or continuing their education or both (93 percent for 1999 versus 92 percent for 1994). A slight decrease was noted in the percentage of survey respondents pursuing additional education among more recent graduates (4.7 percent for 1999 versus 6.4 percent for 1994). The percentage of recent graduates who were unemployed and seeking work is slightly lower

currently at 4.3 percent versus a 4.4 percent unemployment rate reported five years earlier. A higher percentage of current graduates were working in the community college district in which they received their training (64 percent in 1999 versus 55.9 percent in 1994). The average hourly wage of $12.36 increased $1.90 from five years ago for all workers. (The minimum wage increased $0.90 over the same period of time.) A larger percentage of the 1999 graduates were employed in their current position during program enrollment (26.8 percent among 1999 completers versus 24.6 percent for 1994 completers). There was a slight decrease in the percentage of graduates who were employed prior to program entrance (21.6 percent for 1999 versus 21.9 percent for 1994)

As statewide committee assisted in the development of minimum response for the Occupational Follow-up Study and colleges with response rates below the required levels are asked to formulate strategies for improvement. Additionally, programs exhibiting elevated outcomes in the following areas may warrant further review at the local level: incidence of working in unrelated fields especially due to the lack of availability of jobs in a chosen field; part-time employment particularly where it is uncommon for a given occupation; unemployment, and low wages overall among full-time workers – particularly when compared with others working in the chosen field and low satisfaction levels among program graduates. Programs exhibiting combinations of these less desirable outcomes can be problematic.

In a positive response to a request by the Illinois Community College Board, the colleges have put additional time and energy into attaining increased response rates to the annual follow-up survey. These efforts are paying off with higher overall response rates for the system. The current statewide response rate of 60.3 percent shows a substantial improvement over five years ago (51.8 percent) and matches the historical high for response rates to this survey. Historically, state level response rates have varied from 40.2 percent to 60.3 percent. *There were several colleges with occupational follow-up study response rates below recommended levels and they are asked to put forth additional effort to increase response rates for the coming year (Table A-1).* In most cases just a few more responses would put colleges over the established minimum response rate levels for the Occupational Follow-up Survey. For colleges surveying 30 or more graduates, a 50 percent response rate is required and, for those surveying less than 30 graduates, a 60 percent response rate is required.

Occupational Graduate Follow-up Survey results are incorporated into outcomes reporting under another statewide accountability initiative called the Performance-Based Incentive System (PBIS). The statewide committee working with PBIS helped establish response rates for the Occupational Follow-up Survey. Capturing a broader cross section of respondents through the follow-up survey provides a more balanced picture of graduate outcomes for the current study and benefits the tracking of PBIS outcomes. Student satisfaction and student success in employment/continued pursuit of education are two of the five statewide PBIS measures. Occupational Follow-up Study data provide the percentage of students who are somewhat or very satisfied with courses in the student's major program of study, courses outside the students major program of study, and student support programs and services in a combined "overall student satisfaction" goal. In addition, the percentage of occupational completers reporting in the follow-up study that they are employed or continuing their education provide supplemental data for the "student success in employment/ continued pursuit of education" goal. Deductions are made from a district's PBIS score/funding if minimum standards are not met.

The proportion (80.7 percent) of 1999 graduates employed in an area related to their program of preparation was slightly higher (2.8 percent) than 1994 graduates reported. Several programs reviewed in this statewide study had more than one-quarter of the total employed graduates working in a field that was not related to the community college program they completed. *Those programs which also have at least ten graduates in the statewide study should be examined through college program review processes to determine if program improvement initiatives or additional placement efforts are necessary: Auto Body Repair, Sign Language Interpreter, Teacher Assistant/Aide, Industrial Equipment Maintenance and Repair, and Social Work (Table B-5).*

Although the numbers tended to be small among workers in unrelated positions, several noted that they could not find a position in their field of preparation. Programs with more than a few workers in this situation included: Physical Therapy Assistant (N = 18), Occupational Therapy Assistant (N = 8), Industrial Equipment Maintenance and Repair (N = 6), Social Work (N = 5), and Teacher Assistant/Aide (N= 4). Several factors may contribute to an inability to locate suitable employment in the field. Individuals may be place bound with external circumstances, such as family commitments, limiting the individual's job search to a relatively small geographic area. Placement office officials may need to extend additional assistance to these students in their job search and/or the students themselves may need to redouble their job search efforts. Labor market demand may be weaker than anticipated. In any event, the community college system strives for all graduates to have the opportunity to attain employment in their chosen field. *Additional follow-up on this small group of graduates to offer further assistance is recommended.* To put these outcomes into perspective, all five of these programs combined created concerns about job availability related to the program in which they studied for 41 graduates out of 1,504 who responded to the survey.

The unemployment rate for community college graduates was 4.3 percent which is in keeping with the spring 2000 unemployment rate in Illinois of 4.4 percent (seasonally adjusted). The statewide data provide useful contextual information even though the array of community college programs surveyed for the study does not mirror the entire labor market. Very few community college graduates reported problems locating jobs. *Those programs which have <u>over</u> 30 graduates in the statewide study and elevated unemployment rates should be examined through college program review processes to determine if program improvement initiatives are necessary: Truck Bus and Other Commercial Vehicle Driver (10.3 percent, N = 8), Physical Therapy Assistant (5.6 percent, N = 9), Alcohol/Drug Abuse Counseling (5.6 percent, N = 6), and Social Work (4.8 percent, N = 3).* These four programs account for a total of 26 graduates out of 1,504 respondents.

Overall results indicate that 13.0 percent of workers were in part-time positions. Six programs with <u>over</u> 30 graduates statewide exceeded this percentage: Sign Language Interpreter (34.5 percent, N = 10); Social Work (29.1 percent, N = 16); Teacher Aide (26.8 percent, N = 11); Physical Therapy Assistant (20.0 percent, N = 29); Child Care Provider/Assistant (15.7 percent, N = 56); and Occupational Therapy Assistant (15.1 percent, N = 11). Part-time employment can be common in these fields.

Overall, average graduate earnings for all workers were substantial at $12.36/ hour which is 2.4 times minimum wage (currently $5.15 per hour). Graduates from programs earning entry-level salaries that were less than one and three quarters times minimum wage ($9.01/hour) included: Teacher Assistant/Aide at $7.92/hour (1.54 times minimum wage), Diesel Engine Mechanic/ Repairer $8.44/hour (1.64 times minimum wage), Human Resources Management ($8.63/hour), (1.68 times minimum wage) and Medical Assistant $8.71/hour (1.69 times minimum wage). Note that very few Diesel Engine Mechanic/Repairer and Human Resource Management graduates provided earnings information but in both instances all workers were employed in full-time positions. Colleges with programs leading to occupations with relatively low initial earnings should make students aware of the compensation available in these fields both short and long term. Among the listed programs whose graduates exhibited limited earnings, satisfaction levels for those working in positions related to their training were relatively high for Diesel Engine Mechanic/Repairer (M = 4.67), Teacher Assistant/ Aide (M = 4.36), and Medical Assistant (M = 4.14) graduates. Human Resources Management (M = 3.14) graduates working in the field reported lower levels of satisfaction with their jobs.

Overall, community colleges are receiving additional recognition for their roles in workforce preparation by external audiences. For example, Badway and Grubb, (1997) provide a positive description of the multiple roles community colleges perform.

> Community colleges and technical institutes constitute one of the most significant workforce preparation developments of the twentieth century. Nearly half of all adults take at least one course in a community college, and about 45% of all undergraduates enroll first in a two-year college. They are the one educational institution simultaneously providing initial preparation for work, upgrade training to those needing additional skills, retraining for displaced workers and others who want to change careers, and second-chance training for individuals who need some combination of basic academic education and technical skills In most states, they are nearly ubiquitous, providing a source of both academic and occupational instruction within commuting distance of the majority of the population.

Kane and Rouse have continued to look at economic returns from higher education using national database. In their latest analysis, Kane and Rouse (1999) found that the return for one year of study at a community college is approximately the same as the estimated value of a year's worth of education at a four-year college. Successful completion of each year of study at a community college equates to a 5 to 8 percent increase in annual earnings. Kane and Rouse (1999) estimate that completing an associate degree is associated with a 15 to 27 percent increase in annual earnings. Community colleges offer the citizens of Illinois real value which is magnified when one factors in these economic returns with the quality of the programs and services provided, the reasonable cost to attend, and the geographic accessibility colleges offer. Illinois community colleges will continue their efforts to strengthen programs and services through the Occupational Follow-up Study as an integral part of a multifaceted assessments aimed at improving accountability and productivity.

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APPENDIX A

Occupational Follow-up Study Overview Tables for Selected Occupational Programs

APPENDIX B

Statewide Occupational Follow-up Study Tables for Selected Occupational Programs by Classification of Instructional Program Code

APPENDIX C

College-Level Occupational Follow-up Study Tables for Selected Occupational Programs by Classification of Instructional Program Code